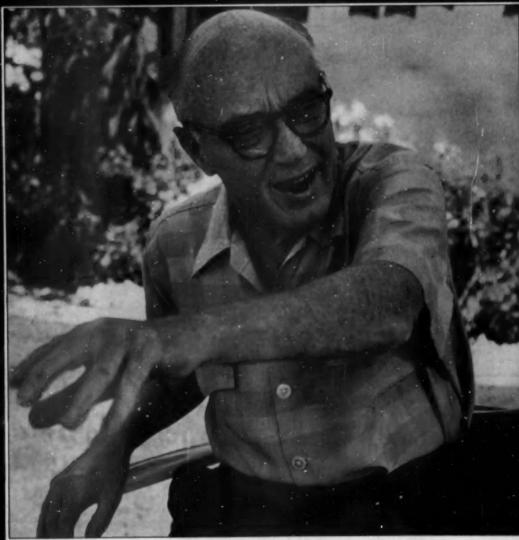
BUSINESS WEEK

INDEX YEAR AGO



Floyd Odlum: Uranium is ready for a financier (page 90)

A MCGRAW HILL PUBLICATION

MAY 28, 1955

ANN ARBOR WICHOFILMS
313 N I ST S-C
NUN ARBOR WICH



"National Accounting Machines save us more than 75% annually on our investment!"

-BAUER & BLACK, Chicago, III. Division of The Kendall Company

"Our National Accounting Machines return us, in direct savings, about 75% annually on our investment. However, since this estimate does not include certain other savings that we consider intangible (such as reduced floor space, lower forms cost, and the simplicity that permits us to train operators at reduced cost) the total savings are more than 75% a year.

"Nationals handle the work in our Accounts Payable, Accounts Receivable and

Payroll departments. In addition to saving valuable time, they help our operators do more and better work with less effort.

"The versatility of our Nationals helps us combine the production of much needed records and, without extra effort, gives essential data on a tight schedule."

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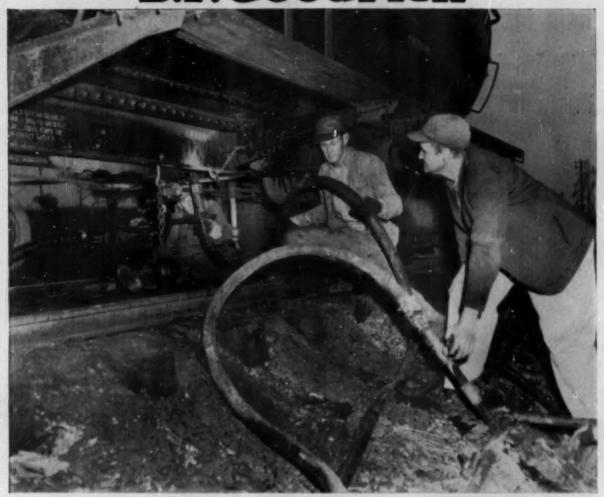
In your business, too, National machines will pay for themselves with the money they save, then continue savings as annual profit. Your nearby National man will gladly show how much you can save-and why your operators will be happier.

THE NATIONAL CASH REGISTER COMPANY, DAYTON S, OHIO

977 OFFICES IN 94 COUNTRIES



B.F. Goodrich PIRST IN AUSBER



Hose gives tank cars a hot steam bath

A typical example of B. F. Goodrich improvement in rubber

THAT'S a carload of asphalt to be used for paving highways. But first the construction company has to get the thick, gooey stuff out of the tank car.

To do this, they shoot scalding steam

To do this, they shoot scalding steam through hose into the tank car. The asphalt melts enough to be pumped out easily, quickly. Only one trouble. The heat and pressure ruined ordinary rubber hose in no time. There was constant expense—and always the danger of bursting, scalding the workmen.

Then the construction company heard about the Burstproof steam hose, developed by B. F. Goodrich. It's made with braided steel wire buried in the rubber—not one length has ever been known to burst. That's only one of many B. F. Goodrich improvements in steam hose—some to make it safer, others for longer life, lower cost. The B. F. Goodrich hose has been on the job 2½ years now—far longer than any hose used before—and it shows no signs of wearing out.

Product improvement like this is always going on at B. F. Goodrich. New ways are constantly being found to make hose, conveyor belts, V belts work better, last longer. No product is ever regarded as "finished" or standardized.

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B.F. Goodrich
INDUSTRIAL PRODUCTS
DIVISION



This picture of a prospector staking a claim pointed up a PARADE story on the pitfalls and promises in buying uranium stocks.

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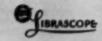


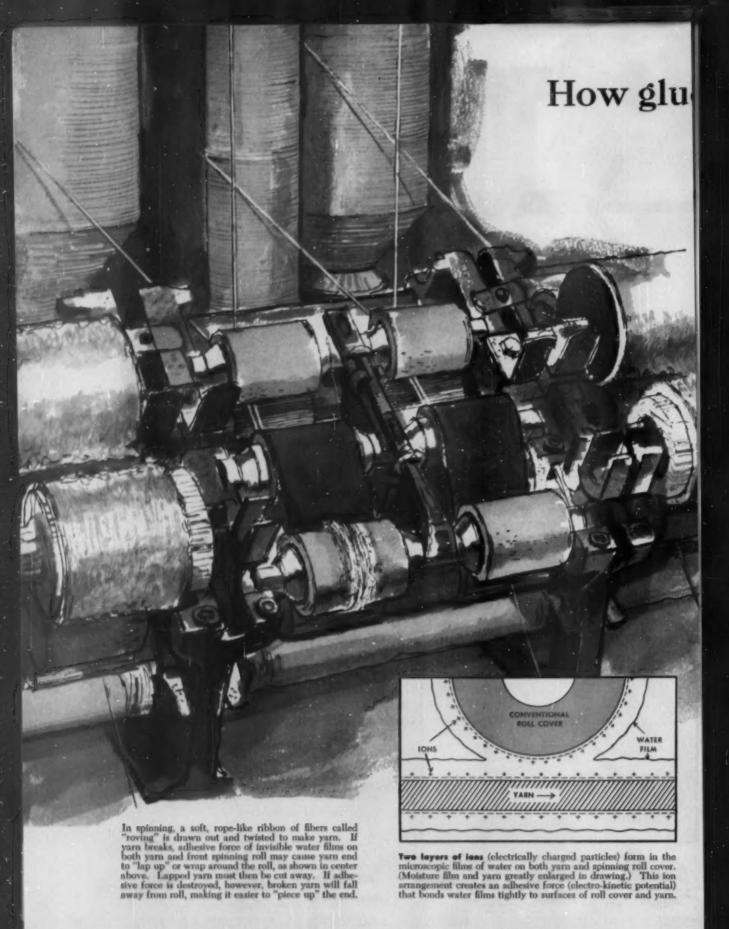












keeps water from becoming "sticky"

Unique electrolyte gets rid of surface attraction on yarn spinning rolls; may lead to improved drive and feed rolls for other industries

You can't see it, you can't feel it; but covering practically everything exposed to humid air is a microscopic film of water. Sometimes this film becomes "sticky" like an adhesive and bonds things together.

This stickiness, known technically as a form of surface attraction, has been the cause of serious problems in industry, particularly in spinning textile yarns. A few years ago, however, Armstrong textile research men found a way to prevent this water film from becoming sticky. Strangely enough, they did it with glue!

Armstrong chemists reasoned that a water film on a surface acts like an adhesive because it contains layers of electrically charged particles called ions. One layer of ions is positive, the other negative. This layer arrangement of ions creates an electrical potential that acts like an adhesive force. It actually bonds the moisture film tightly to the surface of the material it covers.

In the manufacture of yarn, the film of moisture on both spinning rolls and yarn frequently causes a phenomenon known as "lapping up." When the yarn breaks during spinning, the loose end sticks to the spinning roll and wraps tightly around it. Production is stopped until the lapped yarn can be removed from the roll.

Armstrong scientists prevent this "lapping up" by adding an electrolyte to the synthetic rubber used in making spinning roll covers. According to theory, this new roll covering material releases into the water film additional ions which cancel out, or neutralize, the bonding force created by the double-layer arrangement. The water film no longer holds the yarn to the roll.

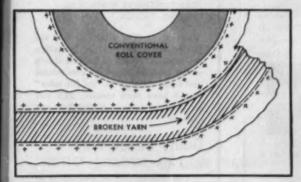
Of all the electrolytes tested, one of the best at preventing water from becoming sticky is animal glue. (The details of this development are covered in Patents No. 2,450,409-410). Special studies are now going on at the Armstrong Research and Development Center to see if such electrolytic materials used in roll coverings can help solve surface attraction problems in other industries.

If you monufacture equipment using resilient rolls for handling web or film material, you may be troubled by a similar form of surface attraction. Specialists at the Armstrong Research and Development Center will be glad to determine whether or not an electrolytic rubber roll covering would improve the operation of your equipment. For details, call the nearest Armstrong Industrial Division Office or write on your letterhead to Armstrong Cork Company, Industrial Division, 8205 Indian Road, Lancaster, Pennsylvania.

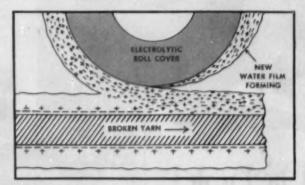
Armstrong INDUSTRIAL PRODUCTS

... USED WHEREVER PERFORMANCE COUNTS

adhesives . . . cork compositions . . . cork-and-rubber . . . felt papers . . . friction materials



If yern breaks after being drawn under roll, water films hold broken end to roll cover causing a "lap up." This is a result of two water films meeting under pressure of roll and merging into one. Internal forces in single film make it resist splitting . . . and ion arrangements bond it to surfaces of both yarn and roll.



Such "lap ups" are stopped by roll cover containing electrolyte which puts additional ions into water film. These break up ion arrangement, destroying adhesive force or electro-kinetic potential. Water film loses its stickiness . . . weight of yarn pulls it away from roll cover . . . and broken yarn end cannot "lap up."



AT YOUR RECORD KEEPING

... and the second look will give you a shock (if you are using conventional filing equipment for large-volume records)! The second look will unmask unorganized and purposeless activity when it comes to keeping records . . . records on credit, equipment, sales, service, cost, cross-index, etc.

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READERS REPORT

A Shady Business

Dear Sir:

I was indeed gratified by your article, "Moonshining: A Big Business in the Shadows," which appeared in BUSINESS WEEK April 30'55.p.155.

Such information and education are needed both by the public and our elected representatives to make them realize not only the difficulties involved in our industry, but what wrongs the high tax on distilled spirits is promoting.

M. J. HALPERN

DIRECTOR OF TRADE RELATIONS SCHENLEY INDUSTRIES, INC. NEW YORK, N. Y.

Dear Sir:

I wish . . . to extend to you our compliments and appreciation for the article that appeared in BUSI-NESS WEEK Apr.30'55,p155 entitled "Moonshining: A Big Business in the Shadows."

It was an excellent article.

H. R. HEIMERDINGER

NATIONAL DISTILLERS PRODUCTS CORP.

What Is a Coat?

NEW YORK, N. Y.

Dear Sir:

Re an article in your Apr.2'55 issue, p. 50 under the heading "Mink is the Bright Spot in Retail Fur Industry."

It states, "The bright spot is the mink business which now constitutes about 90% of the domestic retail fur coat sales." Is this correct, or should this be 90% of all fur sales, which would include capes, stoles, jackets and coats?

I. F. TAYLOR

SUPERVISOR, FUR DEPT. JOHN NORTHWAY & SON, LTD. TORONTO, CANADA

. The term "fur coat" as our reporter used it was a collective designation, which if broken down would include capes, jackets, stoles and coats. The term "all fur sales" would have been clearer, and will be used in future similar fur references.

Guilty Either Way

Dear Sir:

The incongruity of two items in BUSINESS WEEK May 7'55 makes me wonder whether the Dept. of (so-called) Justice is operated on the basis of keeping the left hand

MECHANICS R ELECTROMECHANICS S ELECTRONICS KEY to flexibility

Broadly diversified Military production demands are finding quick response and prompt deliveries in the flexible facilities of Avco's Crosley Division. From miniaturized components to large airframe assemblies, fuzes to fire control systems, Crosley *reliability* meets rigid specifications for "rightness."

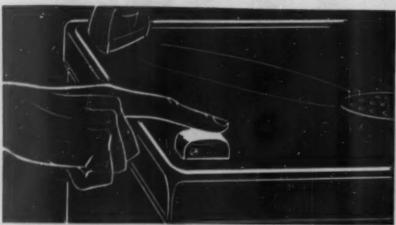
Enthusiasm in research and development at the Crosley Division of Avco is converting theories of tomorrow into practical production today. And constantly, specialized testing facilities are created to keep pace with the complexities of the projects under development.

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YOU CAN BE SURE ... IF IT'S Westinghouse

in the dark as to the activities of the right hand.

On page 41, you report this department as intending to prosecute publishers because they "stick to their published advertising rates." And on page 50, you report an action against a company because it is charged, among other things, with giving rebates to customers.

So, if I stick to my price schedule, I am a crook and if I don't stick to my price schedule, I am likewise a crook. How silly can anti-trust actions get?

C. W. METCALF

BOSTON, MASS.

Users of Computers

Dear Sir:

Re BUSINESS WEEK Mar. 12'55, p. 43. You did an excellent job of presenting linear programing to the public. However, the impression was created that it was chiefly the Navy which had applied linear programing methods to contract award problems. . . .

Although the Navy has shown interest in this approach, it has been the Army, and in particular the Textile and Procurement Agency of the Quartermaster Corp, that has actually been using the SEAC... in solving their contract award problems by linear programing. (The SEAC is the Automatic Digital Computer at the National Bureau of Standards.) They have been using this method for the last year and a half.

HANS BREMER

COMPUTATION LABORATORY
NATIONAL BUREAU OF STANDARDS
U. S. DEPT. OF COMMERCE
WASHINGTON, D. C.

4th, 5th, 6th Heat

Dear Sir

In answer to Reader Kain, Reader Ellis of Minneapolis-Honey-well Regulator Co. says he has the answer [BW—May7'55,p13] to excess heat . . . through individual room temperature control. How naive can he be?

Would he move the secretary from the office, the nurse from the patient's room and the teacher from the classroom that the sufferers might enjoy normal temperature?

RALPH A. BURNHAM

VICE PRESIDENT
UNION MARKET NATIONAL BANK
WATERTOWN, MASS.

Dear Sir:

Re "Heat Hinders Too" [BW-



"No, it isn't CANCER ..."

PEOPLE are beginning to realize that there is much needless worry about cancer. For example, the American Cancer Society reports that at a typical cancer clinic, where large numbers of people are examined, only about one out of every 125 is found to have cancer.

Thanks to medical progress, the spirit of hopelessness that once surrounded cancer has been replaced by rising optimism. This is based in part on the increased number of lives now being saved. Records of the American Cancer Society, for instance, show that skin cancer, discovered early and treated promptly and properly, is curable in 85 percent of the cases.

What developments hold great promise for the future? For one thing, there are the advances achieved in both diagnosis and treatment. Cancer of certain internal organs, for example, can now be detected by searching under the microscope for cancerous cells cast off into body fluids. This yields clues to so-called "silent cancers," or those which have not caused noticeable symptoms. It is in this stage that the disease is often curable.

One great hope of cancer research today is that drugs will be found to cure both localized and widely apread cancer. Already there are chemicals which can slow down ... and even stop for awhile ... the growth of some types of cancer cells. Today, however, only surgery and radiation offer hope of cure or control.

Cancer's Seven Warning Signals

- 1. Any sore that does not heal.
- 2. A lump or thickening in the breast or elsewhere.
- 3. Umisual bleeding or discharge.
- 4. Any change in a wart or mole.
- 5. Persistent indigestion or difficulty in swallowing.
- 6. Persistent hourseness or cough.
- 7. Any change in normal bowel habits.

While the sweeping search of science goes on against cancer, everyone . . . especially those who are middle-aged and older . . . should take these two wise safeguards:

- Learn the seven danger signals listed here that give early warning of the possibility of cancer. Remember, these signals are not sure signs of cancer.
- Have periodic medical examinations. These are especially important because about 50 percent of all cancers occur in body sites that can be readily examined by the doctor.

Cancer still ranks second as a cause of death—but cancer is not hopeless. Even with today's weapons, we are . . . according to the American Cancer Society . . . saving the lives of 70,000 people each year from cancer.

Metropolitan Life
Insurance (A) Company
(A HUTTAL A GOMPANY)
(MARSION AVE., NEW YORK 10, N. Y.

Matropolitan Life Insurance Co. 1 Madison Ave., N. Y. 10, N. Y.

Please mail me a free copy of your booklet on Cancer, 655-8

City____State____

HOW TO USE STANDARD HALLOWELL CABINET BENCHES AND ACCESSORIES IN PLANT MODERNIZATION



Standard Units Standard Accessories-Sturdy Steel Construction Stocked by Leading Shop Equipment Dealers Send for Benchery's a Humorous Booklet on What You Can Da with Hallowell Benches: Hallowell Shop Equipment Division, Standard Pressed Steel Co.

SHOP EQUIPMENT DIVISION

BENCHES (CABINET, WORK, UNIT) + STOOLS AND CHAIRS + SHOP DESKS + TOOL STANDS AND CABINETS + DRAWERS, DRAWER TIERS + STEEL CARTS + SHELVING Apr.16'55,p12—Readers Report] and the two replies published to date, the answer lies both in the distribution of the heat and also individual room temperature control.

The heat distribution system must be zoned properly to afford heating for exterior spaces and ventilation, or even cooling, in other spaces as required.

With heating and/or cooling available to all spaces, and each of these spaces with individual temperature control, the hindrances of overheating will be eliminated.

JAMES M. PURDY BLUM & GUERRERO, ENGRS. AUSTIN, TEX.

Dear Sir:

I am in complete accord with Reader Kain . . . in regard to his statement, "Far too many offices show temperatures of 80F all winter long." I do believe, however, that the remedy is readily available to all property owners at a very reasonable cost. . . .

The solution is to install individual room controls so that the occupant of each office space can set the temperature to meet their particular requirements. regardless of the other tenants in the build-

H. R. COILE

REGIONAL SALES MANAGER HEATING CONTROLS DIVISION MINNEAPOLIS-HONEYWELL REGULATOR CO. ATLANTA, GA.

Millions Mystify

Dear Sir:

Someone with the time and the necessary misanthropic instincts should be able to provide considerable amusement for himself and his like-minded unfriendly friends by checking up a few years later on industry spokesmen's statements. My kind suggestion to unkind people is based on the first article in Business week May 7'55,p25, "No Rest for the Steelmen." This points out the possibility that the present 125-million ingot ton capacity will have to be increased.

In 1947, before a special steel subcommittee of Sen. Kenneth Wherry's Small Business Committee, the chief steel spokesman testified that an output of 54-million tons annually would satisfy all normal needs and that to meet top loads, industry capacity should be 76.3-million tons in 1950 and 78.4-



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your war on costs. Weight records that originate at scales flow to the accounting areas and directly affect costs, inventories and customer billings. Weighing errors cannot be corrected laterweights must be right the first time. That's why it's more than ever important to think of weighing not in terms of isolated scales, but as a vital part of your overall cost-control system.

If you would like to explore this in relation to your plant, why not drop us a line today? No obligation, of course.



million in 1955. It's my admittedly hazy recollection that the government economists, led by Dr. Louis H. Bean, were ridiculed for forecasting a demand of over 100million tons in 1950 and 120million tons in 1955. . . .

J. F. STRALEY ROCKVILLE CENTRE, N. Y.

· Perhaps it is just too difficult to keep track of figures when they get up in the millions. Actually, the steel industry had installed capacity of 91-million tons in 1947 and before that year ended, companies announced plans for adding 3.5million tons. Production was at such a high rate that 85-million tons of steel were actually produced that year. So it is difficult to believe the producers' estimate was so low. And using Reader Straley's figures for 1950 and 1955, it seems that the industry's performance was at least as good as the predictions.

Greatly Exaggerated

Dear Sir:

I was surprised to notice that in the May 14, 1955 issue of BUSINESS WEEK, page 80, you had jumped the gun in announcing my death.

May I assure you that I feel pretty well and am considered alert enough by Clevite Corp. to be allowed to serve as Vice-President and General Manager.

HERMAN L. WECKLER

CLEVITE CORP. CLEVELAND, OHIO

Dear Sir:

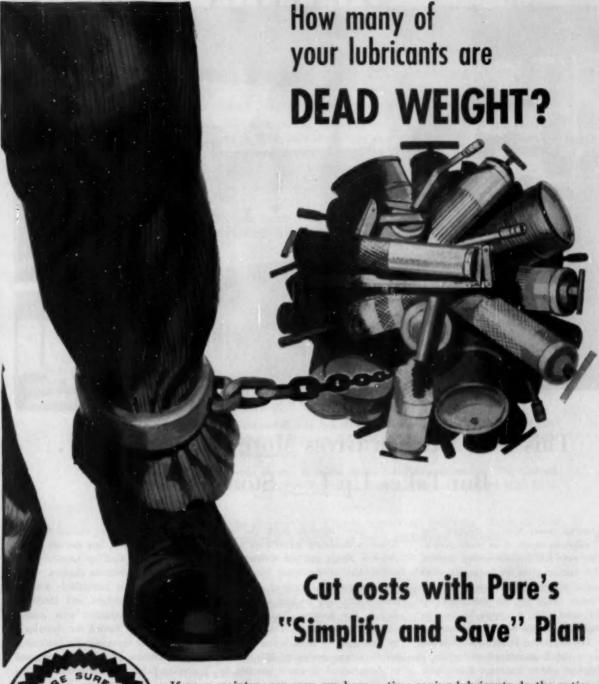
When Mark Twain's death was reported by mistake long before the event, he commented that "reports of my death are greatly exaggerated."

The same thing can properly be said now about a statement in your otherwise excellent Chrysler Corp. story [BW-May14'55,p80] that put Herman Weckler out of this life. I can assure you that you could not be more wrong. He is very much alive and is now a vicepresident and director of Clevite Corp. as many others here in Detroit will be glad to testify.

FRANK KENESSON

CHRYSLER CORP. DETROIT, MICH.

> Letters should be addressed to Readers Report Editor, BUSINESS WEEK, 330 West 42nd Street, New York 36, N. Y.



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This New Kitchen Gives More Storage Space ... But Takes Up Less Storage Space

You've never seen a kitchen that offers so much to so many people. The new American-Standard convertible kitchen gives the housewife more usable storage space. Yet it saves on storage space for the distributor. At the same time, it speeds kitchen installation for the builder and retailer.

The American-Standard kitchen has convertible base cabinets so the house-wife can add or rearrange sliding wire shelves and drawers herself at any time to provide more usable storage space. Horizontal cabinet styling makes the kitchen look more spacious. And eyepleasing handle color-guards come in a variety of exciting colors for distinctive kitchen decorating. The cabinets are made of steel for lasting appeal . . . durable, quiet-closing, non-warping, mar-resistant.

All these features mark the new American-Standard kitchen as a triumph in design and convenience.

But one of the most remarkable things about it is the ease and speed with which this kitchen can be installed. For instance, the undersink cabinet can be assembled in minutes—by one man — from a few easy-to-handle component parts. This miracle of construction is made possible by a revolutionary assembly principle called Snap-Lock. An interlocking assembly channel aligns all the cabinets, clamps them together, and also fastens base cabinets securely to the separate, telescoping sub-base. Only a pair of pliers is needed to do the job.

Just think of the time and money that builders can save in the assembly of this kitchen. And the saving the distributor and retailer realize through smaller inventory, less storage space, elimination of multiple handling, and reduced transportation charges.

In short, this remarkable kitchen typifies the foresight and ideals of service that, combined with quality products, have earned for American-Standard the reputation for leadership in the kitchen, plumbing, heating and cooling fields. Plumbing and Heating Division of American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pa.



American-Standard

BUSINESS OUTLOOK

BUSINESS WEEK MAY 28, 1955



The U.S. economy has made the crucial shift.

Business is hitting new highs. And the steam behind it comes from customers—from civilian, peacetime business.

We've come a long way from the defense-propelled days of 1953.

Almost any measure of business you look at is back to its 1953 level—or above it. The broadest gauge of all—gross national product—is running above \$370-billion. It will almost certainly top \$380-billion this year. In 1953's best quarter it almost reached \$370-billion.

Meanwhile military business has been declining steadily. It has been a drag, rather than a propellant, for almost two years.

So 1953's fear as to how we'd shift from a defense boom without a major recession is well behind us.

A look at the figures shows you how far we've come from a defense economy.

In 1953, national security took almost 15% of the U.S.' total production. Investment—much of it spurred by five-year write-offs on defense industry—took a little more than 15%.

Over-all, the government took 23% of our total output. That's both the federal government and state and local government.

Now national security takes only 11%. Investment is a little less than 15%—and very little of it is geared to defense.

Over-all, government has not dropped so sharply. But that's because state and local governments have stepped up their spending to build roads, schools, and hospitals.

The significant change is in the share going to consumers. The customers got only 62% of 1953's production. Now they're taking more than 65%.

All this has already had a basic impact on business. Look at how investment by business is shifting to meet customers' demands.

The government is buying about \$12-billion a year less than it was in 1953. Consumers are buying about \$11-billion more.

Now consumer spending is more than taking up the slack. It's moving higher—and putting pressure on capacity. That's what's behind the steel industry's rush to build rolling mills and expand ingot capacity.

There are risks built into a peacetime economy—but businessmen like it just the same.

When defense orders are running high, the government has a powerful lever to control the economy. It can stem a recession merely by pushing out the contracts.

And defense orders give a company a fat backlog of volume orders.

But defense business is specialized and concentrated. Take a look at the leading companies among defense contractors (page 27). The top group is all aircraft.

And any company can find its biggest contracts canceled fast. Moreover, defense business in its nature tends to be low-profit.

In building up civilian business, too, you feel you're building a sound

BUSINESS OUTLOOK (Continued)

BUSINESS WEEK MAY 28, 1955 foundation for the future. That's why businessmen feel the shift away from a defense economy is a good thing (BW-May21,'55,p27).

What's behind this surge of consumer buying?

One thing is that incomes are breaking records. With taxes lower, more of it is take-home money. Right now this "disposable income" is running above \$260-billion.

And you get a very revealing glimpse into the workings of this economy when you look at the way that income is distributed.

The U.S. has long been middle-class. Now it's getting to be upper middle-class. The number of families in the lowest income groups is falling rapidly. The number moving into what might be called the upper middle groups is doubling and trebling (page 134).

As families move up, too, they feel they can safely make more use of credit. Surveys of consumer finances show the middle-income groups are big users of installment credit to buy cars.

Customers are also saving less of their incomes than they were in 1953. Savings are running about 7% of incomes now as against 8% then.

There's a change also in the pattern of people's spending.

Hardgoods are getting a bigger slice of the consumer's dollar.

But despite all the emphasis on hardware, look at the department stores. In the first part of May, they were selling 10% more than a year ago, 4% above 1953.

And it's the luxuries that are getting the play. Biggest gainers among the departments are silverware and clocks, jewelry of all kinds, handbags for women, furs, furnishings, and carpets. Major appliances, luggage, sporting goods—and boys' and girls' wear—are all up.

If you have any doubts about statistics on the boom, look at what's happening to metal. Again and again the government has diverted metals ordered for stockpiles to commercial users. And it has even released metal it was holding in stockpiles.

Some 3-million lb. of nickel—important for stainless steel and auto trim—has been released.

Copper, zine, and lead are still going into stockpiles, but the government is not bearing down. Domestic demand is too strong. And, if a fabricator can show real hardship, stockpilers will release 16,000 tons in the third quarter.

Aluminum is being diverted from stockpile channels—and it's so tight there's a squabble over it. Some fabricators claim they're not getting a fair share (page 31).

Is the auto boom going to ease?

This first half's production will be a record—no matter what happens to labor negotiations or production in June. And the third quarter will run on at a high pace—1.8-million cars—says Ward's Automotive Reports

Incidentally, the '56 models are coming early. Ward's also reports that at least seven car makes will switch over in July and August.

Gentucto comprished under the general contribute on the May 28, 1988, 1999—Guilann Word, 200 W. 42nd St., New York, N. Y.

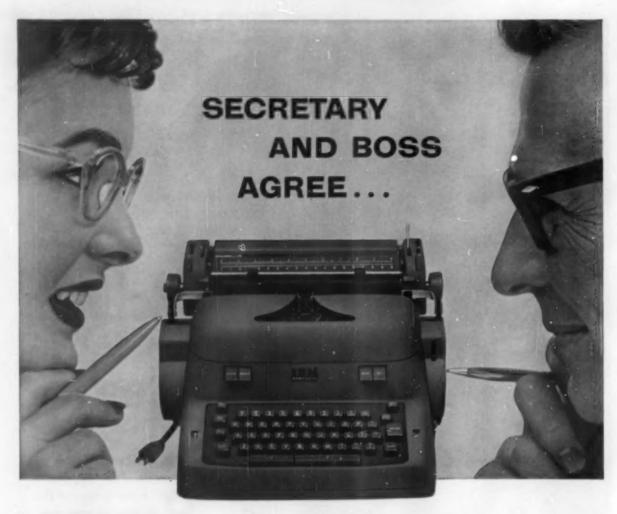
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Manufacturers of Stainless and Carbon Steels



Dear Mr. R --

I'm just tickled pink with my new blue IBM "Executive"! It's so easy to use! They tell me it took 2 pounds of pressure to work every key on my old manual -- with my IBM it takes less than 3 ounces! And my work goes so much faster ... the old daily "crisis" is a thing of the past! So thanks a million for IBM "power-typing," I just plain love it!

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IBM makes 32 models including this STANDARD and the EXECUTIVE shown above. They come in a wide variety of type faces and in 7 handsome colors. You're sure to go electric — make sure you go IBMI

For more information or a demonstration call your nearest IBM office or write to International Business Machines Corporation,

Dear Miss S --

The pleasure's half mine! Those
"Executive" letters you've been turning out
on your new IBM are so handsome,
they look as though they were printed.
I know they help build company prestige -actually open doors for us! So you'll
be seeing more IBM Electrics around here
soon. We know they'll pay for themselves
in increased efficiency and prestige!



IBM

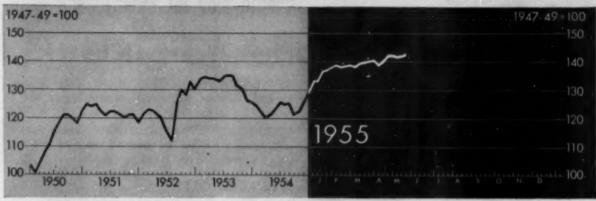
ELECTRIC TYPEWRITERS

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TYPEWRITERS ... OUTSELL ALL OTHER ELECTRICS COMBINED!

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FIGURES OF THE WEEK



Business Week Index (above)	f Letest Week *143.1	Precoding Week †142.8	Month Age 142.2	Year Age 124.7	7948 Average 91.6
FRODUCTION					
Steel ingot production (thousands of tons) Production of automobiles and trucks. Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands) Electric power output (millions of kilowatt-hours). Crude oil and condensate production (daily av., thousands of bbls.). Bituminous coal production (daily average, thousands of tons). Paperboard production (tons).	2,324 218,972 \$71,939 9,730 6,676 1,487 279,415	†2,338 †221,746 \$74,265 9,673 6,681 1,448 274,269	2,307 225,074 \$60,377 9,697 6,832 1,408 263,794	1,698 158,023 \$60,706 8,373 6,435 1,192 249,190	1,281 62,880 \$17,083 4,238 4,751 1,745 167,269
TRADE					
Carloadings: manufactures, misc., and l.c.l. (daily av., thousands of cars)	74 52 +11% 226	74 50 +9% 233	71 41 -13% 204	68 45 -8% 248	82 53 +30% 22
PICE				Tier.	
Spot commodities, daily index (Moody's Dec. 31, 1931 = 100). Industrial raw materials, daily index (U. S. Dept. of Labor BLS, 1947-49 = 100) Foodstuffs, daily index (U. S. Dept. of Labor BLS, 1947-49 = 100). Print cloth (spot and nearby, yd.). Finished steel, index (U. S. Dept. of Labor BLS, 1947-49 = 100). Scrap steel composite (Iron Age, ton). Copper (electrolytic, Connecticut Valley, E&MJ, lb.). Wheat (No. 2, hard and dark hard winter, Kansas City, bu.). Cotton, daily price (middling, ten designated markets, lb.). Wool tops (Boston, lb.).	401.5 91.0 86.4 18.7¢ 144.8 \$34.00 36.000¢ \$2.49 33.94¢ \$1.94	401.7 91.5 86.1 18.7¢ 144.8 \$34.33 36.000¢ \$2.54 33.98¢ \$1.95	400.7 92.7 86.5 18.5¢ 144.8 \$35.67 36.000¢ \$2.49 33.55¢ \$2.00	438.9 86.7 102.5 19.2¢ 140.8 \$28.25 30.000¢ \$2.33 34.35¢ \$2.12	311.9 ††73.2 ††75.4 17.5¢ ††76.4 \$20.27 14.045¢ \$1.97 30.56¢ \$1.51
FINANCE					
90 stocks, price index (Standard & Poor's)	298.2 3.49% 2–21%	295.3 3.50% 2-21%	303.1 3.49% 1%-21%	230.1 3.48% 11-11%	135.7 3.05% 4-1%
EANKING (Millions of dollars)					
Demand deposits adjusted, reporting member banks. Total loans and investments, reporting member banks. Commercial and agricultural loans, reporting member banks. U. S. gov't guaranteed obligations held, reporting member banks. Total federal reserve credit outstanding.	\$6,262 84,523 22,743 33,599 24,908	56,234 84,214 22,721 33,395 24,924	56,613 84,864 22,530 34,063 25,175	53,715 79,764 21,975 32,958 25,542	††45,820 ††71,916 ††9,299 ††49,879 23,883
MONTHLY FIGURES OF THE WEEK		Latest Month	Preceding Month	Year Ago	1946 Average
Cost of Living (U. S. Dept. of Labor BLS, 1947-49 = 100)		114.2	114.3	114.6	83.4

in BUSINESS this WEEK ...

GENERAL BUSINESS:

TWIST . . . at Montana auction where rodeo oper-

ators pay good money for a fast buck.....p. 28

WHY AREN'T THERE MORE JOBS? The figures say more goods and services are being turned out by fewer workers.....p. 30

NEW GOALS FOR DEFENSE PLANT. ODM is reviewing defense expansion, especially in aluminum......p. 31

TESTS MEAN NEW SALK DELAYS. Government

TESTS MEAN NEW SALK DELAYS. Government and vaccine makers are working out new standards for producing and testing polio vaccine. p. 32

SPECIAL REPORT:

THE NEW WORLD OF RESEARCH. Science is moving into industrial labs, creating a new force in business and some problems and unknowns p. 104

BUSINESS ABROAD:

	Page
Business Outlook	. 17
Washington Outlook	. 37
International Outlook	. 163
Personal Business	. 183
The Trend	. 200
Figures of the Week	. 21
Charts of the Week	. 103
Readers Report	. 8

MANAGEMENT

BOOSTS HERE, CUTS THERE ADD UP TO A MODEST GAIN. The ups and downs of executive salaries between 1950 and 1954.....p. 186

FINANCE:

INDUSTRIES:

HOW MUCH STRAIN ON CREDIT? A lot depends on whether FRB acts to ease the current pinch....p. 41 INSIDER DEALS IN THE SPOTLIGHT . . . as Washington moves to crack down on uranium speculation. p. 52

A HOWLING TRADE IN MONKEYS.

How dealers in monkeys operate to

keep up with demand from Salk vac-

cine makersp. 62

MARKETING:

EVERYBODY GAINS—MOSTLY THE MAN IN THE MIDDLE . . . as income distribution shifts p. 134

FURNITURE BID. New firm hopes to

The Pictures—Boeing—26, bottom; Chicago American—187, bottom (right); Cities Service—68; Compton—186, 2nd row (center); Du Mont Labs.—82; First Research Corp. of America—169; Joern Gerdts—28, 29; Halsman—186, 2nd row (right); Harris & Ewing—186, 3rd row (left); Houston Press—86; Issan—104, 105, 106; Jay Levitom—62, 63; Don Ornitz—90, 91; Sovfoto—26, tap, 154, 155; Standard Oil (N. J.)—186, top (center); Swift & Co.—186, 3rd row (center); U. P.—186, top (left), (right); U. S. Rubber Co.—78; U. S. Stecl—187, bottom (left); Dick Wolten—186, 2nd row (left), 187, top (right); W. W.—160, 187, top (left); John Zimmennan—186, 3rd two (right).

PRODUCTIONS

LASOR:

GAW: CONCESSIONS BY ALL? Indications in Detroit point to adoption of a compromise plan....p. 166
ENGINEERS HOIST UNION BANNER... as strike ends at Minneapolis-Honeywell.....p. 168
BEHIND THE DIXIE STRIKES... is management's anti-union drive, according to the unions....p. 169

THE MARKETS:

HOW STRONG IS THIS RALLY?
Wall Street is chipper about the stock
market comeback, but wonders how
long it will last......p. 176
FULSRIGHT GROUP SPLITS FOUR
WAYS... on stock market report,
with the majority taking a mild
linep. 178

dent the modern furniture market

with quality, moderate prices. .p. 146

THE MARKETING PATTERN: Britain

Updates Its Retail Machine . . . under

the impetus of competition...p. 147

NAMES & FACES:

PAULUC HUN:

REGIONS



... another advance in mercury lighting from G. E.

Now 54% more light from G-E 400-watt mercury lamp

New General Electric H400-RC1 gives top color balance, too

In another mercury lighting first, General Electric has raised the light output of the H400-RC1 mercury lamp from 12,300 to 19,000 lumens! This 54% increase in efficiency results from using a special fluorescent phosphor as a reflector as well as to improve color balance. Its color characteristics are best of any mercury lamp for general lighting. Color rendition approximates a mixture of ½ filament light and ½ mercury light.

The new G-E H400-RC1 mercury lamp has a life rating of 6000 hours at 5 or more hours per start. It operates on the same equipment as all other 400-watt mercury lamps and is interchangeable in most reflectors.

With its controlled beam, good color, easy maintenance, and high light output, it is first choice for most mercury lighting applications.

For more information on how this new mercury lamp can fit your operation, call your G-E Lamp supplier, or write General Electric Company, Lamp Division, Dept. 482-BW-5, Nela Park, Cleveland 12, Ohio.



COMPARE NEW G-E RC1 WITH OTHER 400-WATT MERCURY TYPES

NEW RC1 VS H400-E1

- Light on the work equal or greater in most equipment
- · Adds color balance
- Less maintenance



NEW RC1 VS H400-J1

- Delivers 10-20% more light on the work in most equipment
- Has somewhat better color balance
- Lower cost of light



NEW RC1 VS H400-A1

- 35% more light on the work in most equipment
- Has good color balance
- Lower cost of light



Progress Is Our Most Important Product

GENERAL (ELECTRIC

Why Russia Has to Bargain

Moscow is ready to talk business.

The Red masters have overextended themselves in Europe and in Asia, and are facing an economic crisis at home.

The stage is set for meaningful important settlements.

Both the Soviet Union and the U.S. are ready to launch a determined and basic effort to settle their differences. That becomes evident this week as the interchanges go on for this summer's top level talks.

That means you can expect real results from the long series of international conferences that is just beginning.

• The danger of an H-bomb war

will become very small.

 Hard agreements may be reached on Germany, solving the most dangerous territorial problem left over from World War II.

• There will be real progress to-

ward atomic disarmament.

· Conflicts in Asia will become

less dangerous.

These are interlocking questions. Traditional power issues like Germany can't be settled today without first solving the new problem of surviving the H-bomb—and vice versa. At this point in the hydrogen age, delay in reaching a settlement reduces national security for both sides.

I. The Changed Situation

The big question is whether the Kremlin is prepared to face the facts, to accept Eisenhower's dictum: "Since the advent of nuclear weapons there is no alternative to peace." Now there is increasing evidence that at least some Soviet leaders agree with Eisenhower on this; they can no longer believe their own propaganda about an H-bomb war destroying only the capitalist world.

Two other facts are shaping East-West relations:

The power vacuum that existed in Europe after World War II has been filled. Now that West Germany is a

member of NATO, the European Defense System is approaching the peak of its planned strength (BW-May21'55,p148). At the same time, Free Europe has moved beyond economic recovery into a period of unprecedented prosperity. This consolidation of military and economic strength in Western Europe already has put the area out of the reach of Communism, and is forcing the Russians to seek a new relationship with Western Europe, especially with West Germany.

A real crisis, rising from the lopsided economic structure built by Stalin, is catching up with Soviet imperialism. Relief can come only from accommodations made with the out-

side world.

• New Strategy—In seeking such accommodations, Moscow of course can be expected to press for the utmost advantage at every turn. Only the most naive Westerner, or the fellow traveler, believes that a real peace dove suddenly has taken roost in the Kremlin. But it doesn't follow, as some Western observers believe, that Moscow is now engaged merely in an elaborate maneuver to stall German rearmament and thus regain the ground lost in the cold war during recent months.

The facts suggest that Moscow's strategy has really changed: It has lost the German game; with the Austrian peace treaty, it has started to beat a retreat from the advance positions taken

up by Stalin.

For bargaining purposes, Soviet Forcign Minister Molotov will take a tough line when he meets the Western Foreign Ministers next month at the special San Francisco session of the United Nations. And Premier Bulganin will remind Eisenhower of Russia's military power at the "summit meeting" this midsummer. The Russians will want a quid pro quo for concessions—but above all they want a breathing spell.

• Balance Sheet—Draw up a balance sheet of the cold war and you get an idea of why the Kremlin wants a breathing spell and what it might pay for it. The same balance sheet reveals something about the price the West is likely to ask—and pay—for a settlement.

Communist gains in the first five postwar years were substantial—the conquest of Eastern Europe by 1948 and of mainland China by 1950, both achieved while Russia was rebuilding its war-torn-economy. Just as important to their power position, the Russiand developed the A-bomb in this period, and pushed the growth of heavy industry at a phenomenal rate.

Stalin's aims, however, went much further. In 1946, when he launched the cold war, he planned to get control of Western Europe as well as Eastern. He figured that Soviet possession of East Germany would provide the leverage to get the Western zones, and the powerful Communist parties in France and Italy would give him the leverage he needed in these two countries.

II. Price of Peace

It was not until after the Marshall Plan got going and NATO came into existence that the tide really turned in Western Europe. But turn it did. Today the whole area is out of reach of Communist power. Economic prosperity has undermined the Communist fifth column everywhere. The West German resurgence has put the pressure for a change of the status quo on East Germany, rather than the reverse. Moreover, the threat proposed by Stalin's policy put U.S. power firmly into Western Europe. It has led the U.S. to ring the Soviet Union with airbases that can be used at any moment for delivery of nuclear weapons on Russia.

Thus, Stalin's ambitions in Europe have clearly boomeranged—by increasing Western economic and military strength far beyond the point it would otherwise have reached.

 Squeeze—At the same time, Stalin's imperialist policy, in Asia as well as Europe, boomeranged in another direction—on the Soviet and East European economy. To back his policy, Stalin needed a huge "peacetime" war industry. To achieve that he had to squeeze every last ounce out of Soviet agriculture—without putting any investment to speak of into it, either in the form of fixed capital or incentives for the Russian peasant. This made the Soviet economy even more lopsided than it had been in the 1930s.

As a result, Russia today is losing the race between population growth and food production. Even its much-vaunted industry shows signs of strain.

This economic crisis hit Russia simultaneously with the crisis in leadership that followed Stalin's death.

III. Russian Gambit

The Russians have thrown out what amounts to three proposals for consideration at the upcoming talks: (1) neutralization of a unified Germany; (2) disarmament based on an absolute reduction in the size of traditional forces plus some form of international control over nuclear weapons; and (3) removal of U.S. airbases from around the borders of the Communist empire.

What the Russians would like is to trade East Germany for the removal of our airbases and manage it in a way that would leave a unified Germany as part of a buffer belt stretching from Sweden to Yugoslavia.

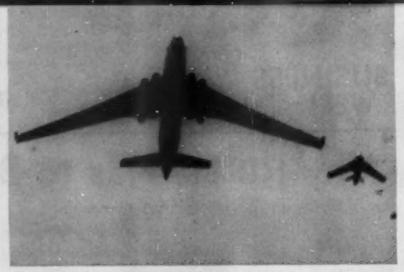
If they could remove the airbase threat, the Russians would not be much interested in disarmament—not, at least, until the day when intercontinental missiles are practical.

Cautious—If this is Russia's bargaining gambit, the West won't take it seriously. Neither the British nor West German governments are prepared to see Germany yanked out of NATO and put in a neutral position.

On Germany, they might offer, after unification: (1) to limit armament to the western part of Germany; (2) to keep total German armament to a strength proportioned to the level of forces maintained in Eastern Europe by the new NATO-type defense organization there.

In the process, the opening of East-West trade-perhaps including heavy U.S. food shipments to Russia-could become an important bargaining counter (page 164).

If such an agreement could be worked out with Moscow, the U.S. might be willing to discuss withdrawal from the airbases—such as those in Turkey—which the Russians consider most threatening to their security. But our price for any such move would certainly be a foolproof disarmament plan that included effective international control over nuclear weapons.



RUSSIA'S BISON, a heavy intercontinental bomber, that's staked against . . .



U.S.' B-52, striking arm of Strategic Air Command. In airpower race, there's an . .

Ominous Gain for the Reds

The huge black airplane in the top picture and the sleek shiny bomber in the lower picture are elements in the deadliest race the world has known. The black airplane is Russia's four-jet 6,000-mile-range Bison intercontinental bomber. The sleek shiny aircraft that is shown below it is the U.S.' B-52, the long-range arm of the Strategic Air Command.

This week, there was sobering news on the progress of the race for preponderant airpower.

"Russia is winning its technological race with the U.S. to develop superior airpower," said Aviation Week, a McGraw-Hill publication.

"The Red Air Force has made such rapid progress in design and production of supersonic fighters and long-range jet bombers that it has shocked even the top level and most knowledgeable military aviation leaders in the Penta-

What produced this conclusion was a series of reports from people who stood with their eyes on the sky over Moscow's Red Square around the time of this year's May Day displays of Russian land and air power. Through the last week of April and the first week of May, they saw:

• Fifty new, swept-wing, supersonic, day fighters. Foreign observers said these were of a more advanced design than the U.S.' F-100 Super Sabre, and rated their performance as comparable to that of the 1,000-plus mph. Lockheed F-104.

• Thirty rakishly designed new, all-weather fighters. These were reckoned better than the U.S.' F-94C Starfire, but not quite so speedy as the F-102.

 Nine swept-wing turboprop bombers. These closely resembled the IL-38, which has a range of 7,000 miles.

 At least 50 twin-jet Badger bombers. These are rated as mediums, with a 3,000-mile range and are roughly the same size as U.S.' B-47.

• Ten four-jet Bison heavy bombers (picture), whose range is around

6,000 miles.

To the aviation leaders in the Pentagon, the Russians' show of power meant that (1) the U.S. is squarely in the middle of a crisis in the race for airpower; (2) Russia's recent rate of progress in the air is faster than that of the U.S.; and (3) although the U.S. holds a slim lead, it must speed up its airpower development program if it doesn't want Russia to close the gap in the next couple of years.

It meant, too, that the Russians have shown their clear intention to develop and produce a long-range atomic and hydrogen weapon striking force.

As the reports from those observers in Red Square sink in, they may bring repercussions in three fields: domestic politics, defense production programing, and international diplomacy.

In Washington you can hear the

political rumbling already.

It began with Scn. Stuart Symington's demand for a Senate investigation of the reasons for Russia's apparent gain in airpower. It was added to with Aviation Week's charge that "top civilian officials in the Defense Dept., and presumably in the White House... withheld the whole story [of the Russian air display] from the American people."

Pressure for a formal investigation is building up on Capitol Hill among both Republicans and Democrats. Symington says he wants to get the truth now, that he's not hunting for extra dollars for the Air Force. And he adds that Congress must have the truth about airpower before it can properly consider any further changes in

the defense budget.

Indications are that two targets of any investigation would be Treasury Secy. Humphrey and Defense Secy. Wilson-Humphrey through his association with plans for paring the defense budget, and Wilson through charges that he muzzled Air Force brass just as they were about to sound off with the full story of the Russian show of power. There are hints, too, that the White House may be drawn intrough charges that the White House had a hand in withholding facts about the Russian threat.

In an attempt to put the damper on talk that the Reds are pulling ahead of us in the airpower race, Wilson is insisting that the U.S. is maintaining

"a military capability superior to that of any potential enemy." He admitted, though, that the recent Moscow "flybys" of new Soviet planes showed that the U.S.S.R. is producing better planes in greater numbers than Washington expected.

Internationally, the display of power allows Russia to go into the Big Four talks with a big stick—a long-range atom- and hydrogen-bombing force that can threaten the U.S. directly.

How have the Russians moved so far, so fast, in the airpower race? Probably it began after a 1953 conference in Moscow, at which Korean MiG veterans met Russian airplane designers. Stimulus of the conference was the failure of the MiG-15 in Korea. What followed was a "crash" program of airplane development and production. About the same time, the pace of U.S. Air Force and Navy airplane development and production slowed, following the "long pull" principle, rather than the urgency of the Korean airpower buildup.

Among the results of this:

 The Russians got their MiG-17 into production and into service while the U.S. dawdled with development of the F-100, which is a comparable plane.

The Russians also got into production a successor to the MiG-17.
 It's a supersonic day interceptor. This puts them almost two models ahead of the U.S. in first-line day fighters.

• They started production of their first Bison long-range bomber, 18 months after the U.S. turned out its first B-52. But in long-range bomber strength, they are just about abreast of the U.S. now. The U.S. has built 30 B-52s, and Russia has flown at least 10 Bisons

• Their development of supersonic day and all-weather fighters may force a change in the U.S. Strategic Air Command's tactics. SAC's policy was to get over its targets at night, or in bad weather to evade fighter attack. Now its B-52s must prepare to face a dangerous radar-fighter combination around the clock, and in any weather.
• Behind the Lag—Aviation leaders see two fields in which U.S. airpower production is lagging dangerously.

The first is in the development cycle. It's now taking the U.S. about eight years to shift an airplane from first design to combat-ready equipment. The Russians appear to be making the same shift in four to five years. Among reasons for slowness in the U.S. program: (1) off-again-on-again habits within the Air Force (in the B-58 project there have been four major reversals of policy in the last four years); and (2) insufficient support in tooling, manufacturing, and management backing for the aircraft industry's design engineering teams.

The second big lag is in production methods (BW-May7'55,p32). The complex weapons designed by scientists call for production tolerances unheard of by engineers. The weapons parts can be handmade in laboratories easily enough, but putting them on a production line is a major headache.

Whatever the answers are, the policy-

Whatever the answers are, the policymakers in Washington and the chiefs of the aircraft industry have had impressive warning of danger from the demonstrations over Red Square.

Top Suppliers ...

. . . for defense now headed by aircraft companies; GM, though cut back, keeps post-Korea lead.

Just how much military production has shifted to aircraft and guided missiles is clearly shown in the latest report of the Defense Dept. on the 100

biggest defense contracts.

Firms manufacturing air power hold the 11 top spots in the amount of prime contracts awarded between July 1, 1953, and Dec. 31, 1954. United Aircraft Corp. leads with \$1,061,400,000 in contracts in the 18 months.

• Leaders—In the same period, General Motors Corp.—though it still heads the list of firms receiving contracts since the Korean mobilization began in 1950—had more contracts canceled than new ones received. In June, 1953, GM had \$6,697,800,000 in total contracts reported. The cancellations bring that down to \$6,638,900,000 as of Dec. 31, 1954.

Boeing Airplane Co., which still is in second position behind GM on total contracts received since 1950, picked up \$764.9-million in awards in the 18 months through December, 1954-making its total \$5.2-billion. General Electric Co. received \$213.3-million in new awards in the 18 months for a Korea-to-date total of \$3.7-billion. United Aircraft, topping the 18-month list, now has a cumulative total of \$3.9-billion. That puts it even with Douglas Aircraft, which received \$1,041,-800,000 in the latest period.

• Others—Here is a rundown of the other aircraft companies in the first 11 companies receiving prime contracts in the 18-month period: North American Aviation, Inc., \$910.2-million; Lockheed Aircraft Corp., \$740.8-million; General Dynamics Corp., \$597.9-million; Grumman Aircraft Engineering Corp., \$377.1-million; Curtiss-Wright Corp., \$340.1-million; Republic Aviation Corp., \$329.5-million; Hughes Tool Co., \$313.3-million; Glenn L. Martin Co., \$276.4-million.



AUCTIONEER opens the bidding almost as soon as the horse leaps out of the chute.



BUYERS in stand signal either with a nod of their head or a raised forefinger.



RODEO OPERATOR Everett Colborn (left) reckons a horse's chances for stardom.



BUCKING BRONCOS here redeo operators to the annual Bucking Horse Auction at Miles City to try to outbid each other for the meanest horses in Montana.



Broncs on the Block **Show How They Twist**

Although Wall Street failed to report the deal, a hefty hunk of stock changed hands last weekend in Miles City, Mont. Buyers, sellers, and demonstrators of an increasingly rare product got together to wrap up a number of important transactions.

The product was several hundred of the orneriest horses in the Westbroncos that can be trusted to throw their riders into the dust with some

degree of regularity.

The buyers, of course, were rodeo operators. The sellers were ranch owners, some of whom specialize in breeding a horse with a fast buck. The demonstrators were cowboys-tough riders who sometimes are amazed that they get paid for the fun of riding a hard-bucking horse.

The transactions took place at the annual Miles City Bucking Horse Auction, the only one of its kind in the

world.

• Dress Rehearsal-At the auctionwhich most rodeo followers think is tops for full-fledged rodeo excitementprospective buyers and spectators watch bucking horses under conditions similar to an actual rodeo. A cowboy boards a bronco in the chute and gives it an 8-sec. ride-if he's lucky.

These demonstrations usually are wild and thrilling because, with a horse fresh off the desert, nobody-including the horse-knows what will happen.

During the three-day sale, 350 horses were sold for nearly \$40,000. Prices ranged from \$50 to a high of \$240.

• A Gamble-Picking a good bucking horse is a highly specialized art. Veterans can take a look at a horse, and tell within a few pounds how much it weighs and whether it's a range horse, a saddle horse that has never become reconciled to the saddle, or a work horse too mean to handle. But it takes a ride under rodeo-like conditions to tell the story about a horse's chances for stardom. Even then, it's a gamble.

Each buyer has his set of standards, but surprisingly, most of them aren't looking for a "wild" horse. "A crazy horse will break up too many fences and sometimes just run like mad without bucking," says Everett Colborn, who with Gene Autry owns the World's Championship Rodeo booked in Madison Square Garden every September. The ideal is a "spinner" or "twister"that is, a horse that turns and twists sideways and around in a circle instead of a straight-ahead bucker. It should also be a high-kicking horse that like? to buck. Most operators shy away from mares because they're "too temperamental and motherhood is a problem."

· Genetics-Good stock is the rodco operator's toughest problem. While a good bronco may last 20 years, most of them endure for less than three years. Colborn replaces about half the horses in his string every year because they seem to just get tired of bucking.

Reliable bucking horses are hard to come by for several reasons, mostly because breeding practices are aimed at creating a horse with a good disposition, not a bad one. One breeder has overcome this by matching a mare that likes to buck with a nasty-tempered stallion. Usually, the progeny is something to

rassle with.

· Competition-The auction itself is staged by the Miles City Auction Co., owned by some ranchers and businessmen who organized to build the local stockyards several years ago. The bronco testing event was started in 1951 to fill a need for the broncos and to stimulate stockyard activity generally. The operators make little profit on the bucking horse auction itself, but the event pays off in promotion for the yards, and in bringing people to the community.

To enter the demonstrator's competition, each rider pays a fee of \$25 for each event he enters (there are two classes-bareback and saddle brone). In each "go-around" (series of rides in which every rider gets one mount) there is prize money for the four best rides. There are also grand prizes and

special prize money.

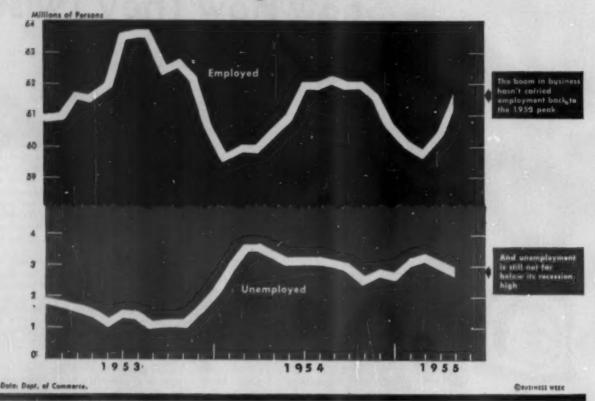
Contestants must sign a release so that only they are responsible for their own welfare. Injuries are not uncommon, but the riders are amazingly hard and tough. One, who had had a rough day, complained that he was out of condition "because I been doing nothing but marching with the infantry for the past year, and I'm a little soft.

. On the Block-To sell horses in the auction, the owner must pay a per-head fee of \$5.50, plus \$5 if the horse is ridden bareback and \$10 if it is in the saddle-bronco event. The horses come from miles around-many are shipped in from other states-but northern horses, particularly those in eastern Montana, are the rodeo operator's best hope. Southwestern horses from Texas, for example, usually aren't big enough for sustained bucking. Horses that lack the proper spirit of

showmanship often end up on another

block-in the packinghouse.

Paradox for Policymakers



Why Aren't There More Jobs?

As a political issue, the unemployment question has fizzled out this spring. With only 4.8% of the labor force unemployed at the latest count, and with employment in a period of seasonal rise, even the hardiest politician can't manage to raise a scare among the voters.

Just the same, as the two lines in the chart above indicate, the trends in employment and unemployment are setting some tough problems for government policymakers. Here's the real puzzler: Why, in so powerful a boom, doesn't employment rise more—why doesn't unemployment drop faster?

 More With Fewer—The fact is that the U.S. economy today is turning out more goods and services with fewer workers on the job than it did at its previous peak in 1953.

Some figures tell the story. In the first quarter of this year, gross national product was running at \$370-billion annual rate. To produce at that level, we needed 60.2-million workers. Back in first-quarter 1953, with the rate only \$361.8-billion, we needed 61.3-

million workers. Since both population and labor force have grown in the two years this means just one thing. Unemployment had to remain at higher levels than in 1953.

• The Whys-When you look for the explanation of this paradox, you run into another: The labor force has not grown so fast as the population. In the first quarter of 1955, the labor force averaged 63.4-million—only 200,000 more than it was two years earlier.

Some, explaining this in terms of people forced out of the labor force or blocked from entering it, would argue that except for these, unemployment today would be even greater.

Others might say that leisure among housewives, students, and the aged is one of the ways we get the benefit of higher productivity.

The basic explanation appears to be that the U.S. economy is bigger, tougher, and more productive than ever before; and as things are, that it can grow at a good solid rate with far less need for manpower.

· No Marked Change-In first-quarter

1955, unemployment averaged 3.3-million, against 1.8-million in first-quarter 1953. The immediate picture shows no indications of any basic changes since Christmas either in the employment or unemployment situations. The rise in employment from February through April was due mainly to seasonal factors. Seasonally adjusted, non-agricultural employment has edged up only 1.5% from the midsummer, 1954, bottom. During the same period, GNP rose nearly 5%.

Unemployment figures, too, show a seasonal decline—dipping below 3-million in April from February's 3.4-million. But seasonal adjustment does strange things to these figures also. Seasonally adjusted levels were actually higher in April (3-million) than in February (2.8-million).

• Outlook—However, no one besides economists pays much attention to seasonally adjusted employment. What people work at are the jobs that are in season—and on that score there's little worry at the moment.

Nor will there be in the months

immediately ahead. The Labor Dept. foresees a summer increase in employment of about 1-million-mostly in agriculture, construction, and summer

service jobs.

At the same time, unemployment will probably climb by several hundred thousand; the estimates are that 4-million students will be job-hunting this summer—only part of them, however, on a full-time basis. High schools will graduate 1.4-million youngsters; but about one-third will go on to college, another large group into the armed forces. Colleges will graduate 264,000 potential job seekers.

• Problem Areas—Employment reports from most sections of the country right now are cheerful. Still, it's clear that the seasonal improvement isn't doing much to help distressed areas of chronic unemployment, or industries such as coal, textiles, and shipbuilding. The most recent data—for March—actually showed an increase in the number of distressed labor areas (those with substantial labor surpluses) to 43 from the year-ago level of 34.

Nowadays, increases in actual jobs tend to lag considerably behind a rise in business activity. Employers first stretch out hours, and add workers only when overtime costs and increasing inefficiency make this more economical than a longer working day.

So far hours have, in fact, lengthened—though probably less than is generally thought. Last September, hours per week in manufacturing averaged 39.7. By April they were up to 40.2—but that's only a 2.9% increase.

• Long Range—The persistence of chronic unemployment in some sectors is also a normal consequence of a changing economy; it may be the necessary condition for re-allocating resources so as to bring the economy to its maximum.

mum efficiency.

Economic thinkers in the Eisenhower Administration are not overlooking the social—and political—problems of people in the backward industries. But they don't want to adopt measures that would arrest the movement of labor and capital from those sectors to more productive ones. This has also been their approach to the farm prob-

lem (BW-Apr.2'55,p23).

• Fast Enough—Right now, though, policymakers seem more concerned about the pockets of unemployment than about the general employment situation that results from a faster growth in productivity than in demand for what the economy can produce. Most Administration economists clearly figure that general business is going ahead fast enough as it is. To push for still faster expansion would simply be inviting inflation. That might take care of unemployment temporarily, but it would set the stage for a real bust later.

New Goals for Defense Plant

Mobilizers have already lifted the target for electrical capacity. Aluminum shortage is being scanned now, with broader report due.

The business boom is forcing government mobilizers to restudy the aids they have devised for expansion of

defense-related industries.

The electric utilities have already persuaded the Office of Defense Mobilization to grant them additional five-year write-offs on new additions to capacity. But amortization—though it gave the incentive that helped build \$30-billion of new industrial capacity since Korea—isn't the answer now for every industry. Aluminum stressed that point this week.

Only a month ago, aluminum producers figured that second-half 1955 would end all talk of shortages. This week, all bets were off; the search was

on for new supplies.

• Gripe—The big squawk comes from among the 20,000 nonintegrated fabricators who must get their supply from Alcoa, Kaiser, Reynolds, or Alcan, the Canadian giant. Last week spokesmen for the fabricators told their troubles to a House Small Business subcommittee headed by Rep. Sidney Yates.

At the House hearings, the fabricators said their group was not getting its intended share of supplies provided by the industry's second round of government-aided expansion. The fabricators said that they should have been allotted a full third of the new aluminum. Instead, they were lumped into a two-thirds share with top-priority stockpile needs. They argue that they have not got their fair share in the past, and so should be given any aluminum that ODM may divert from the stockpile.

They further wail that the "dominant voice" of Alcoa, Kaiser, and Reynolds in industry councils works to

their disadvantage.

• Too Late-Actually, this aluminum situation has arisen too late for any change in earlier expansion quotas. What the fabricators really want is to be in a strong position if ODM decides on a third round of expansion. ODM Director Arthur Flemming is expected to announce fourth-quarter allocations for stockpile and fabricators within two weeks. He is also expected to suggest further rapid expansion through tax write-offs and guaranteed markets. Actually, there is a 390,000-ton expansion under way among Canadian and U.S. primary producers. But it's an open guess whether Flemming will renew the attempt to get new and small primary producers into the picture.

Aluminum is just one part of the full-scale review of defense expansion goals that at one time included some 225 industries. Of these, only 83 goals are still open and so up for consideration in the ODM report expected some time next month.

Some goals, notably in oil sefining, are likely to be expanded—which means more five-year amortization. Steel would like more expansion but is unlikely to get it in this round. Some other goals may be suspended entirely.

• Electricity—The utilities persuaded Washington to raise their goal from 116-million kw. to 150-million kw. by the end of 1958. The industry moved after it was convinced it could sell more power to consumers; so the boosted goal was based on civilian as well as military considerations.

In general, here's how the goals stack

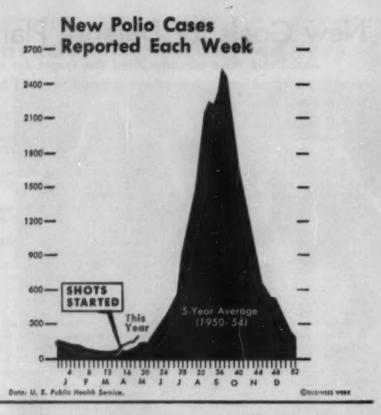
up right now

• Of the definite targets in 46 industries, 10 are "substantially completed." It's easiest to get fast tax write-offs in these fields: railroad passenger cars, aluminum sheet and plate heat-treating facilities, steel castings, electric power, heavy steel plate, medical supplies and equipment, oil pipelines and storage, steam turbines, titanium melting and processing, ore carriers, aluminum forging facilities, heavy aluminum aircraft forgings, and tapered aluminum sheets and welded aluminum tubing.

 Rapid amortization is granted on a case-by-case basis, regardless of goals, for expansion of plants directly tied to military and Atomic Energy Commission procurement, research and development labs, airport facilities, truck terminals, and the like.

 Virtually all domestic metals and minerals qualify for indefinite expansion. But this doesn't mean much; it takes more than a write-off to get someone to open a new mine.

Last year, the Administration rejected an ODM proposal for fast writeoffs on modernization aimed at more
efficient and cheaper production. The
"no" was based on the charge that
such modernization would run counter
to the policy of encouraging plant dispersal. A considerable section of industry is still agitating against the
turndown of modernization. Indeed,
much of the steel expansion now in the
works involves a stepping up of efficiency rather than a net addition of
facilities.



Tests Mean New Salk Delays

Government and vaccine makers set up panel to pass on vaccine batches; but working out new, higher standards is bound to hold up output.

New standards for production and testing of the Salk polio vaccine were being written by government and manufacturing officials this week. Until these are issued, no more vaccine will be released for use.

This could mean that the program would not get back into full operation until perhaps two months from nowafter the start of the normal polio season (chart). If the delay is that long, few children other than those getting shots under the program of the National Foundation for Infantile Paralysis will get the vaccine before next fall.

Executives of the companies making the vaccine sat in with officials of the Dept. of Health, Education & Welfare during the week in the effort to come up with new specifications on production and safety.

They still don't know just what happened to cause an alarming number of recipients of the Cutter Laboratories vaccine to contract paralytic polio. But it seemed evident that the minimum standards prescribed following last year's field trials should be raised to insure greater safety. The new standards are bound to cause delay in getting output going again. Since the Cutter vaccine was withdrawn on Apr. 27, no vaccine, except one batch from Parke, Davis & Co., has been manufactured, packaged and approved.

• Agreements—The meetings that began May 20 at the headquarters of the National Institutes of Health in Bethesda, Md., however, have produced some results. Here are the points that are fairly well agreed:

 Second inoculations for children who received shots from the Foundation may be safely given during the remainder of the school year.

 Full doses of 1 cc. should be continued. The experts decided against proposals to reduce the dose, and make the injection under the skin rather than into the muscle.

On Wednesday, the manufacturer-government group set up a permanent panel to make recommendations to the Public Health Service as to which batches of vaccine are safe for use. Dr. Jonas Salk, developer of the vaccine will serve on the panel,

along with six other virus specialists and government officials.

Beyond that, the cloud over the vaccine situation has not yet been lifted. Four Congressional committees are investigating the problem, their interests ranging from control of distribution to safety of the material, and prices charged by manufacturers.

Catter Case—As of now, the government still does not plan reclearance of vaccine made by the Cutter Laboratories, though as yet it has nothing but statistical coincidence—labeled "strong presumptive evidence"—on which to blame cases of polio.

Details of the Cutter case were revealed Wednesday by Dr. W. H. Sebrell, Jr., director of the National Institutes of Health, in testifying before a Congressional committee. This was his report:

Of eight batches of Cutter vaccine used to inoculate some 400,000 children, no polio cases were reported among those receiving shots from four batches, and only isolated cases from two other batches. It's the remaining two batches that are still in question.

Each of these two batches was

divided into four filling lots before packaging. Most suspicion is directed against two of the filling lots from one of these batches, because most cases developed among those injected from these two lots. However, no cases were associated with another filling lot from the same batch. And in no instance were there two cases of polio among those receiving shots from a single nine-dose vial. • Finding the Answers-The government, and 14 college and other independent laboratories, are now testing Cutter batches against both experimental and commercial batches from other makers, to try to find an answer. If these laboratories can find no significant difference here, this would raise the disturbing picture of a potential flaw in the vaccine that existing tests

standards.

At midweek, there was considerable disagreement between Public Health Service officials and manufacturers over the standards to be used on future production.

cannot detect. That, of course, lies

behind the move for tighter production

There have been differences in the production and testing techniques used by different makers, though all have complied with the government's minimum standards, or at least their interpretations of them. The companies have been concerned that changes will go beyond raising the standards on various parts of the operation to the levels that one or another company has been using. They are concerned that many more additional tests may be required—more than are actually necessary to assure safety.



COSTUME BY HANNAH TROY

The Lady is Styled in Petrochemicals

industry.

Look at her costume. It's woven of new "miracle" fibers made possible by petrochemical ingredients. So is her hat. And the handbag she carries is fashioned from a petrochemical synthetic. Petrochemicals have even helped style her hair, in the new shampoo product she uses.

Every day finds new consumer and industrial uses for these petrochemicals derived from petroleum and natural gas. That's why Sinclair Chemicals, Inc., subsidiary of Sinclair Oil Corporation, is taking strides to keep pace with the rising need for petrochemicals.

Recently, Sinclair's new Aromatic Recovery Unit went "on stream" at Marcus Hook. The plant recovers Tolu-

ene, Xylene, ParaXylene and other aromatic hydrocarbons used in the manufacture of plastics, protective coatings and synthetic fibers. These facilities will turn out millions of pounds of petrochemicals every year. Sinclair Chemicals, Inc., is another example of the Company's growth in the highly competitive petroleum

SINCLAIR
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Gone ... costly thorns in their side

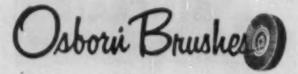
SWN NEWOVAL by muscle methods is aggravating because it is costly, inefficient and non-uniform in quality. Here's how a truck manufacturer has banished these "thorns in the side" with push-button brushing.

The operation: to deburr, break and blend the flank edges of gear teeth prior to shaving and heat treating. Formerly done with a hand tool, in several operations, the work was tedious and required close inspection and reworking to meet rigid specifications. Now, an Osborn Brushing Machine in one speedy operation smooths the entire tooth edge . . . produces uniform blending of surface junctures of every tooth. Result: lower costs and greater precision for better performance of the product in service.

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BUSINESS BRIEFS

The fate of RKO Pictures Corp .- or what is left of it-this week hinged on discussions of "possible plans" by Floyd B. Odlum, president of Atlas Corp. (page 90), and Howard Hughes, RKO Pictures chairman. Of all RKO Pictures stock, 1,260,000 shares are owned by Hughes and 11-million are controlled by Atlas; only 450,000 are in the hands of the public. Chief attraction of the movie company's remnant is an estimated accumulated tax credit of \$30-million.

Petro-Tex Chemical Corp. last week began operation of the Houston butadiene plant, whose 90,000-short-ton annual capacity makes it the nation's second largest, and at the same time announced its intention to boost capacity by as much as 50% within five years. Petro-Tex is the 50-50 child of Tennessee Gas Transmission Co. and Food Machinery & Chemical Corp., which paid nearly \$24.2-million to the government for the plant.

New boss at Sloane's: In the wake of the picking of a new board, Benjamin Coates has been elected president of W. & J. Sloane. Thus for the first time in 112 years, the national furniture chain is headed by a man not directly descended from the founders. But Coates, a Philadelphia financier, is a son-in-law of John Sloane, who stepped out after the family fight for control.

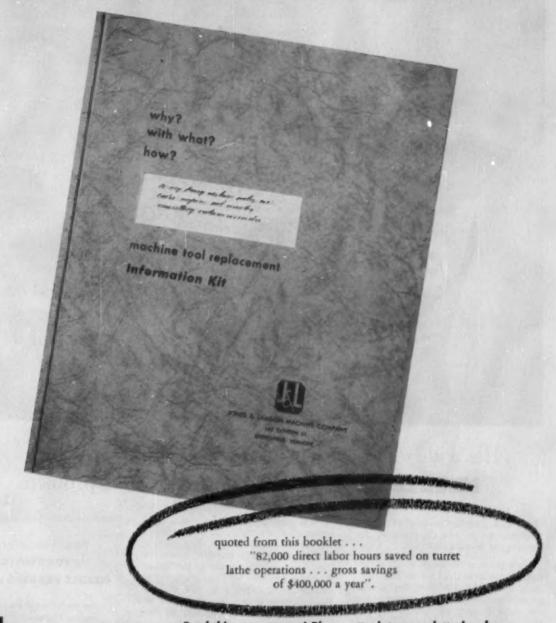
Supreme Court says no to corporate attempts to deduct excess profit taxes, paid in a given year but accrued earlier, in computing net operating loss for the year. That's the gist of decisions handed down this week in cases of Olympic Radio & Television, Inc., and Lewyt Corp.

Economic indicators reported by government sources: Housing is likely to hit 1.3-million units plus this year. Commerce Dept. lays the continuing boom to easy credit, plenty of mortgage money, rising incomes, growing-and shifting-population, and a general yen for bigger and better housing.

Price differentials offered by C. E. Niehoff & Co., Chicago parts maker, were ruled illegal by Federal Trade Commission because they were designed to meet competition generally. To qualify for a "good faith" defense against charges of price discrimination, says FTC, discounts must be "specifically for meeting competing prices.

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WASHINGTON OUTLOOK

WASHINGTON BUREAU MAY 28, 1955



Result of the rumpus over Russia's air progress (page 26) will be to put steam under projects for development of new ways to deliver atomic weapons. The hope is for a "major technological breakthrough," which would reestablish the U.S. lead in the East-West race for air supremacy. Here are the areas in which the push will be made—areas in which the Reds are pushing, too:

Intercontinental guided missiles: Russia has poured money and research into this field since 1946, when it put captured German scientists to work. The U.S. drive didn't really get going until 1950. Progress is hush-hush. But a missile called "Atlas" may make intercontinental bombers obsolete.

Atomic engines for aircraft: Development work is under way, with the aim of turning out a new power plant that could drive either piloted craft or huge missiles at terrific speeds, extreme altitudes, and great range.

A man-made satellite: This would be a sort of shooting platform for atomic weapons, located out in space. It sounds like something out of kids' comics. But research is being done, on both sides of the Iron Curtain.

Why the sudden new appraisal of Russia's air potential? Indications are that the U.S. has underestimated Russia's scientific, engineering, and production skills (BW—May21'55,p39). Intelligence knew, for example, that Russia "rolled out" an experimental B-52-type intercontinental bomber in July, 1953. But when this information was evaluated, the conclusion was that it would be 1957 or 1958 before Russia could reach production in any volume. The U.S. had "rolled out" its first B-52 in 1951. It turns out that Russia's big jet bomber will be in squadron service this July—the same time that the U.S. will be putting its big planes in the fighting line.

There will be politics in the investigation of U.S. air power relative to Russia's. The issues and personalities invite it.

The Eisenhower-Wilson "new look" for defense has been under attack by Democrats right from the start. Democrats will try to show that the U.S.' lead in the arms race has been jeopardized for the sake of economy.

Sen. Symington is a candidate for President. It's no secret that he would like the Democratic nomination. And as a former Air Force Secretary he has "inside" connections through which he gets information on Pentagon policy.

Sen. Johnson, the Democratic leader, figures in Democratic politics, too, when 1956 possibilities are mentioned. Johnson is the first choice of Chmn. Russell of the Senate Armed Services Committee. And it's Russell and Johnson who will decide how far to press the investigation.

Congress' first look at proxy fights, battles for control of big companies, will get under way Wednesday. Sen. Fulbright's Stock Market Investigating Committee will begin looking into how such contests influence a company's stock on the market. Hearings will start with Louis Wolfson's effort to win control of Montgomery Ward. Some committee members have a feeling that proxy fights should be regulated.

The unbalanced budget will make news shortly, when Treasury Secy. Humphrey makes his plea for an increase in the debt limit. The limit,

WASHINGTON OUTLOOK (Continued)

WASHINGTON BUREAU MAY 28, 1955

\$281-billion now, will drop back to \$275-billion on July 1. And that's not enough to cover the deficit spending scheduled for next year.

Receipts are on the rise, as a result of the general business pickup. Collections for the year ending June 30 probably will be above the estimated \$59-billion. But they won't be up enough to bridge the gap left by spending, which may go a little above the estimated \$63.5-billion.

Congress will vote a debt ceiling rise—probably renew the old increase to \$281-billion for another year. That would take care of the government's low income months this fall and winter. But it is doubtful that the deficit for the 1956 fiscal year, starting July 1, can be held small enough to make the old \$275-billion ceiling fit again.

Eisenhower's military reserve bill isn't dead, despite the setback in the House. Support for the measure is strong.

The stumbling block is the racial issue—the Powell amendment to ban segregation in National Guard units. The bill's backers are trying to work out a solution. They figure on strong support from parents of teenagers. The bill would let those under 19 volunteer for six months, then go into the reserves for 7½ years. That would upset education plans much less than the present draft policy, which takes youngsters for two years.

New controversy over the technical manpower supply is shaping up. It involves competition between military and industry for experts.

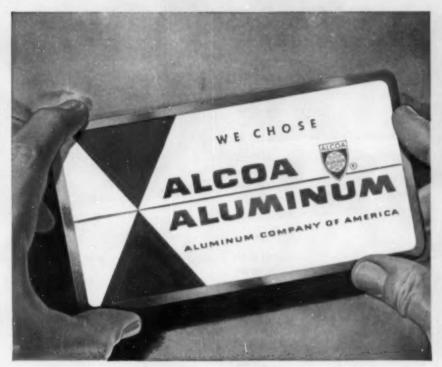
Drafting of scientists and engineers has been a point of friction for years among the military, professional, and industrial groups. The National Science Foundation has financed a government agency survey of the supply-demand situation. The report is now being prepared.

The general conclusion: Stories of scientist-engineer shortages are exaggerated. Over-all, research and development isn't being hampered. Shortages show in only a few fields, where recent progress is very rapid. Examples: electronics, jet planes, guided missiles.

Plans for more specialization in ROTC are being worked up by some of the government's manpower experts. Idea is to develop more officers with highly technical training, as against general field officers. But the military high brass doesn't like the idea—claims it would divert men from drill fields and target ranges. What's more, the brass argues, the services already assign ROTC graduates in line with their academic training.

Eisenhower still is the best GOP bet for 1956, despite all the speculation that maybe he won't run. The Democrats constantly send up trial balloons, trying to smoke Eisenhower out. They hope that he won't run a second race, for obvious reasons. And the stories get a big buildup from the fact that Eisenhower is interested in his Gettysburg retirement farm and that Mrs. Eisenhower hasn't felt well this spring. But decision time is far off. Remember, Eisenhower has strong personal feelings on public duty.

It will be Stevenson or Harriman for the Democrats. Neither is eager to run against Eisenhower. But should Eisenhower pull a surprise bow-out before convention time, then the Democratic nomination will be a fight.



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Your Guide to Aluminum Value



SOON—Manufacturers of These Products Will Be Using the Alcoa Label as Your Guide to Aluminum Value



MANUFACTURERS of residential building products like awnings, combination screen and storm doors and windows, gutters and downspouts eliminate painting and upkeep with Alcoa Aluminum.



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It's what America wanted -and it's going great guns

You see pictured here an automobile long awaited and long expected by the nation's car buyers.

It is a Riviera — the "hardtop" that Buick pioneered for the entire industry six years ago.

But it is a Riviera with separate doors for the rear-seat passengers — and that's the combination now taking the country by storm.

It's easy to see why.

Folks wanted the sleek and racy "convertible look" styling of the hardtopbut they wanted it with the room, comfort and convenience of a true 4-door sedan. And here they have it all . . .

The full and open airiness of the Riviera . . .

A completely unobstructed view to both sides, with no center doorposts above the window line...

The extra-generous legroom, headroom and hiproom of a full-sized Buick Sedan...

Front doors and rear doors - and all four of them hinged at their front edges for greater safety, and to assure

easy entrance and exit.

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mobiles with the sizzling might of a V8 engine of 188-hp or 236-hp. You get it with the spectacular performance and better gas mileage of the new Variable Pitch Dynaflow.* And you get it with the easy-to-take prices that have helped sweep Buick into the top circle of America's best sellers.

Why not drop in on your Buick dealer and take a firsthand look at the newest idea in new cars? With demand for the 4-Door Riviera pushing production capacity to the limit, the sooner you see it—and place your order—the sooner you can have one for your very own.

BUICK Division of GENERAL MOTORS

*Bynaflow Drive is standard on Roadmaster, optional at exira cost on other Series.

Hottest-Selling Buick in History

No wonder you see so many '55 Buicks on the highways—they're rolling up bigger sales than ever before in history—topping the popularity that has already made Buick one of the "Big Three" of America's best sellers. Come try one—and price it and you'll see why Buick sales are soaring.

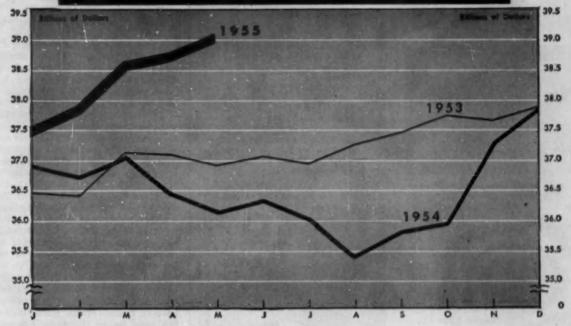
When better automobiles are built Buick will build them



Thrill of the year is Buick

FINANCE





Date: Commercial, Industrial & Agricultural, Real Estate, and other Loans of Wookly Reporting Federal Reserve Banks in 94 Cities, (Figures: Last of month reported and Mid-May 1955)

Causiness week

How Much Strain on Credit?

The chart above provides a clue to an important change that has taken place in the money markets this spring —a change that businessmen will be hearing more and more about during the rest of the year.

At the beginning of 1955, credit was easy; interest rates were low. Now, credit has started tightening up. And it will almost surely get still tighter in coming months.

 The Reasons—Two things have combined to put a squeeze on the money markets:

 The general business boom has produced a swift rise in the demand for all kinds of credit. The jump in bank loans (at a time when seasonal factors usually produce a decline) is only one example. The same thing is happening in the mortgage market, in commercial paper, and in other forms of credit.

 The Federal Reserve System, the arbiter of the country's credit situation, has deliberately made no effort to broaden the credit base to take care of these demands. Since it switched from a policy of "active ease" to one that implied credit restraint (BW-Dec.25'54,p19), the Fed has taken the attitude that the market itself would have to work out the appropriate adjustment between supply and demand. And in a period of rising demand that can only mean that the market must tighten up.

• Consequences—The result has been a series of small hikes in short-term interest rates and a general tightening in the availability of credit. Some businessmen have begun to feel this pressure in their dealings with their banks. And it was dramatically illustrated by the flop of the Treasury's last financing. The 15-month 2% notes that Secy. Humphrey offered got only the most grudging acceptance from investors who would have been delighted with them six months ago (BW—May21'55,p62).

Just how much credit tightens from now on will depend on how sternly the Fed hews to its policy of letting the market work out its own problems. With the regular seasonal upswing still ahead, the money managers will probably have to give the

market a little help to head off a crushing temporary squeeze. The question is how much help.

The answer will depend on how the Fed sizes up the general business situation. If it feels that the boom is growing healthily and fairly evenly, it will want to avoid the restrictive effects of a serious credit squeeze. But if it thinks that things are getting out of hand, then it will feel obliged to use its power over credit as a means of putting on the brakes.

The board isn't going to be acting in a vacuum, of course. The pressures on it from all sides will be strong, and they will get stronger as credit tightens.

• Reserve Limits—The staff of the Congressional Joint Committee on the Economic Report has taken note of the Fed's recent record of limiting reserve positions of banks. The staff questions whether this is the appropriate method of dealing with specific potential trouble spots.

Staff director Grover Ensley prepard a memorandum for members of

How Industry Found a Way

- . TO ENGINEER NEW PRODUCTS WITH A CAMERA
- LOWER THE COST OF SCREEN PRINTING
- . TOUGHEN THE BASE OF PHOTOGRAPHIC FILM



e Secause se much medern engineering depends on studying events that occur too fast for human eyes to see, highspeed photography has turned into one of the engineer's most potent tools. Take the photograph above. Here, the camera got the facts on nozzle dispersion of a do-it-yourself paint can.

For this job, engineers loaded their camera with Du Pont "Superior" Press. Its great sensitivity permits shooting at very low light levels even with high shutter speeds. And special development will push its nominal 200 exposure index as high as 1,000 - often the difference between blanks and fully exposed negatives!

Du Pont "Superior" Press can capture time-and-motion studies, explosion data, construction progress—a whole host of phenomena. Why not mail the coupon for full data on this high-speed film?



· These instrument dials (part of a Link Trainer) were printed by the silk-screen process. Formerly used mostly by sign painters, screen printing has become tremendously popular with industry for the printing of plastics, fabrics, uncoated metals - a wide range of hardto-print materials.

Screen printing puts on a lot of ink (for durability). It's done with stencils -formerly hand-cut, but now often made with Du Pont Screen Process Film. Screen Process Film helps speed up jobs like these because it is simpler and more precise-photographically precise. And production costs on many jobs have been reduced.

If you want complete information on Du Pont Screen Process Film, just fill out and mail the coupon.



· The film that's used by lithographers, newsreel cameramen and Sunday snap shooters comes in two parts, emulsion and base. Over the years there's been a lot of test-tube juggling and slide-rule pushing over the emulsion half of this team, but film base has been comparatively neglected.

Not by Du Pont, however. In a few months, many Du Pont emulsions will be coated on a revolutionary new base which we've named "Cronar." Its strength and dimensional stability are so high that it can be made thinner than any other film base, and still make the toughest, least "stretchable" films

First production of "Cronar" polyester photographic film base will go where it's most needed—to the graphic arts. Soon thereafter, you'll find this latest product of Du Pont research in all of the familiar Du Pont film boxes,

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Street	
City	State
) Please have your Techn	sical Representative call,

"... anxious to avoid any heavy-handed squeeze on the money market . . ."

CREDIT starts on p. 41

the joint committee, indicating some concern about recent Fed actions.

The report says that "we have had relatively stable prices for some months, which is to say we have not been suffering from inflation, no matter how much one may fear or anticipate its resurgence in the future."

The report sees prices generally stable, but it warns that the decline in prices received by the farmers over the last three or four years is continuing. And, it points out that unemployment is still significant, though recovery has been under way for six or eight months.

"In view of the unemployment," the report says, "one may well question whether the current policy of limiting the reserve position of banks through general measures is an appropriate way of dealing with what may be or may become potential trouble spots."

• Mounting Pressure-The potential trouble spots still lie behind the horizon. And prospects are that credit will be even tighter in the second half of this year, unless the Federal Reserve sees a basic change in the business situ-

Credit will be under a dual pressure. First, there's the money demand of an economy still swinging up-it's a good bet that gross national product will climb from its first-quarter annual rate of \$370-billion all the way to \$380-billion by the yearend. Second, there's the U.S. Treasury's own need for new money.

Undoubtedly, these pressures will make the Fed anxious to avoid any heavy-handed squeeze on the money market. But the Fed is also determined to rein in economic expansion to a "sustainable" rate-which means averting any runaway boom and bust in the economy as a whole, or in any critical part of it.

• Self-Regulating-Essentially, the Fed wants to let market forces do their own compensating. That is: If there's too much boom, interest rates will rise; if business holds its present pace, the rates will stand still; if business sags, so will rates, thus easing credit.

But, however much the Fed prefers a passive role, it is prepared to modify it if there are signs of a real credit shortage, with its imminent peril of a full-scale bust. The main object of central bank policy is to see that there's enough money available for the real needs of the economy. And the needs that are arising during the current boom are big by any standards.

The rising pressures on the money market come from many sources:

• The building boom has brought a tremendous demand for mortgage money. Total mortgages on all types of real estate were \$113.6-billion at the end of 1954—and \$75.6-billion of them were on one-to-four family houses. Right now, the signs are that total mortgage debt will hit \$127-billion by the end of this year, with one-to-four family houses accounting for \$10-billion of the increase.

 Installment buying and shortterm business borrowing have been exceptionally heavy. Commercial bank loans have risen contra-seasonally, with a December-through-April climb of \$1.7-billion contrasting with a \$600million sag in the year-before period.

• Corporations are increasing their capital spending; new issues in 1955 will tack another \$7-billion onto the

general demand for money.

 State and local governments are pushing big construction programs; they'll need another \$6-billion this year for toll roads, hospitals, schools, and the like.

• The money needs of the Treasury will bring one of the heaviest pressures of all. Last week, Robert B. Blyth, assistant to Secy. Humphrey, said the Treasury would have to nise about \$9.6-billion in second half 1955 (BW-May 21'55,p36). The portion of this that does not go for refunding will have to come out of an already tight market. And the flop of the 15-month 2% Treasuries showed that the market already has a weak appetite for such rates. But if the rates are raised, the price of outstanding governments will go down. To avoid this, the Fed would have to make money more available, which tends to drive rates down.

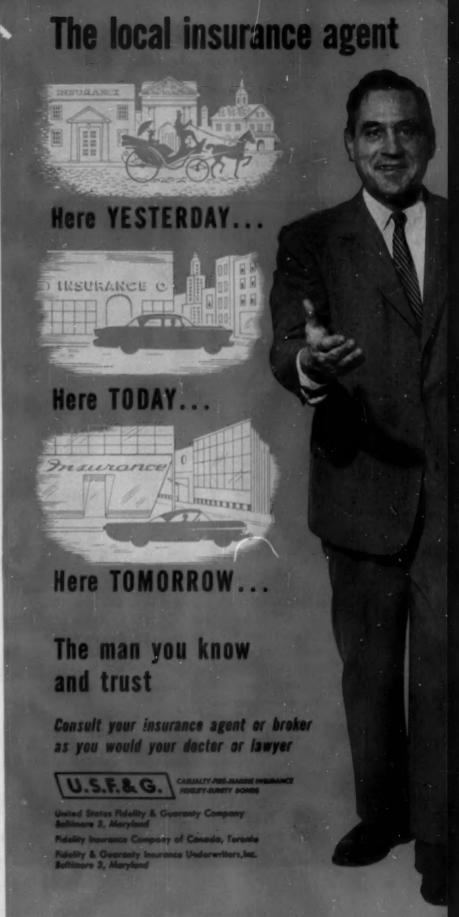
• Adding It Up-Lumped together, all these money pressures add to something like \$38-billion in demands on the capital market. That's substantially larger than last year's \$26.6-billion.

What's more, the heaviest part of the year's demand still lies ahead, and the accelerated second-half pressure will find the banks already fairly tight.

The banks' own position gives an added turn to the screw of this tightness. They're feeling a pinch right now.

• Reserves—This shows up in the banks' reserve position. Banks can expand their loans only if they have excess reserves. The biggest city banks, for example, must have reserves in the form of deposits with the Federal Reserve banks equal to 20% of their own deposits. They can expand loans only if they have reserves above this requirement. Right now they have about \$600-million in excess reserves.

But the banks have been squeezed to maintain excess reserves. So they



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"... interest rates have been 'firm' — the money market's euphemism for 'rising' . . ."

CREDIT starts on p. 41

have (1) borrowed from the Federal Reserve System, and (2) liquidated other assets—particularly by selling government bills and certificates and shortterm bonds. Both operations reduce the banks' liquidity and so force bankers to

tighten up on loans.

The significance of borowing from the Fed is shown in the banks' position on free reserves. Free reserves equal the banks' excess reserves minus their borrowings from the Fed. By the end of March the free reserves were right around zero. On Mar. 30 borrowings were actually larger than excess reserves—the free reserves were minus \$178-million. Banks were able to improve this in April. However, free reserves were averaging not more than \$100-million—against about \$700-million a year ago.

When the banks borrow now from the Fed, they also pay more than they did a year ago. The Fed has raised the rediscount rate from 1½% to 1½%—which means the bankers, in turn, raise their rates to their customers.

• Liquidity—How the banks' over-all liquidity has been reduced is shown in these figures: Last May, member banks in leading U.S. cities held about \$3-billion in Treasury bills. By May 4 of this year the figure was down to \$1.5-billion. A year ago these same banks held \$3.3-billion in Treasury certificates. In early May, these were down to \$1.8-billion.

The drop in liquidity is dramatically illustrated in New York City, where a year ago the 17 weekly-reporting member banks held just over \$1-billion in U.S. securities due to mature within a year. On May 11, the amount was

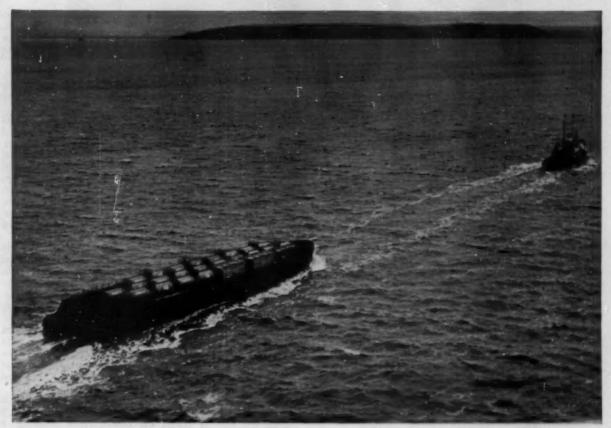
down to \$7-million.

• It Doesn't Hurt-Yet-With free reserves tight and liquidity down, it has been no surprise that interest rates have been "firm"—the money market's cuphemism for "rising." But up to now business borrowers have felt no real pinch; business has been so good that they haven't minded paying a bit more for money.

Whether the pinch becomes sharp enough to hurt depends on:

- The extent to which the Fed lets the banks have additional reserves.
- Rate at which the boom rolls.
 The amount of inventory that piles up as the boom enters its midperiod. Up to now, accumulation has been light (BW-May 21'55,p17).

· Whether housing authorities



Could chemicals-by-barge save you \$72,000 a year?

Tests may show that there's little brand difference in some of the heavy chemicals you buy. But there can be a real dollars-and-cents difference.

How you get them delivered often makes the difference.

For example, a large midwestern processor had been buying liquid caustic soda by tank car. At our recommendation, this company decided to receive caustic soda by barge. The result: a \$72,000-a-year saving.

This is just one instance of what can happen when you do business with a chemical supplier who goes all out to help you buy strategically-and give you service you can count on.

More than 30 major industries rely on Hooker for this kind of service. As a result, nearly everything this country eats, drinks, wears and uses is made with the help of one or more Hooker chemicals, derived from common salt.

If you use caustic soda in your business, send today for your free copy of "Caustic Soda Buyer's Guide," an illustrated, informative 16-page booklet on the various forms of caustic soda available. If you use other chemicals, ask for a copy of our General Products List as well.

ECONOMY-SIZE PACKAGE. Chartered barge, one of a fleet used in Hooker West Coast service, carries 11 cars of liquid chlorine and other chemicals on deck. Below deck are carried 1,000 tons of liquid caustic soda. The barge is shown in Elliott Bay off Seattle, en route to a pulp mill in British Columbia.



MIDWEST CUSTOMERS near Great Lakes get rapid service from Montague, Mich., or from Chicago. Two men can unload a 300-ton shipment of caustic soda from this specially-built Hooker barge in one fast, smooth operation,



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The offering is made only by means of the Prospectus, which describes the securities and the business of the Company.

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May 18, 1955.

"DIVIDEND CHAMPIONS"



This new edition of INVESTMENT FACTS will serve as a handy guide to the "dividend champions"—297 common stocks listed on the New York Stock Exchange with long unbroken dividend records. It includes recent prices, current return and up-to-date dividend data for each stock.

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really tighten up mortgage terms, especially down payments and appraisals. The tightening done so far has been primarily by the lenders themselves (BW-Mar.5'55,p42).

The future of consumer credit.
 Conceivably, auto sales could drop enough in the second half to reduce the total demand for consumer credit.

Sure answers to these questions still lie in the foggiest part of the crystal ball. But conservative economists foresee second-half demand for capital funds running around \$25-billion. Of this, about \$20-billion would likely come from individual investors, the life insurance companies, pension funds, and other institutional investors. About \$5-billion would be left to be provided by the banking system.

The banks, of course, are already pressing against the loan ceiling erected by the Fed's reserve requirements. To ease this situation, the Fed would apparently have to ease the reserve requirements or else boost the banking systems reserves by about \$1-billion.

It could do this through its open market purchases—in which it buys Treasury securities in the market. The checks with which it pays for those bonds are deposited in the banks—and their reserves are boosted.

Easing reserve requirements to a strong and blunt weapon to use in a boom; the consequences could be a shove toward inflation. So open market operations loom as the more likely Fed action.

New Issues Market Has a Busy Week

Wall Street's new issues market closed its books for May with the busiest week in quite a while.

An extra large line of goods was up for public sale: eight offerings involving \$137-million of new bonds; two new preferred issues with a par value of \$31-million; many blocks, both large and small, of new commons.

The biggest bond issues this week were a Detroit Edison Co. offering of \$60-million mortgage bonds and the sale by Lockheed Aircraft Corp. of \$30-million convertible debentures. Also on the jumbo side are the two new convertible preferreds: a \$15-million offering by General Telephone Corp. and one of \$16-million by Minneapolis-Honeywell Regulator Co.

This week's bond offerings vividly displayed the effects of tightened money rates. Alabama Power was forced to pay 3.40% for \$15-million of 30-year "bond money" compared with the cost of only 3.085% it had to incur 14 months back for the public sale of \$17-million of similar 30-year bonds.

NEW POWER PACKAGE

in dramatic debut!

> AlResearch Turbocharger makes major boost in horsepower on huge Caterpillar D9 diesel tractor!

MIGHTIER THAN EVER BEFORE, the new giant Caterpillar D9
Tractor equipped with a small but potent AiResearch Turbocharger pushed record tons of dirt during tests at Proving Grounds and in the field. Application of this
Turbocharger to these big tractors increased
their original horsepower to their present
brawny rating.

The Caterpillar Tractor Co. pioneered the installation of AiResearch Turbochargers as standard equipment on production machinery...with exciting results! Never

before in earthmoving history has such a small, light power package provided such a tremendous increase in power ... and with no additional fuel cost!

In addition, the Turbocharger quiets the engine better than any known muffling device without any of the loss of power caused by mufflers!

The new Turbocharger, reflecting more than a decade of leadership in the development and production of radial turbines and compressors, has had more than 25,000 hours of laboratory and field testing. It again demonstrates the ability of AiResearch to produce small packages that do big jobs for industry. Your inquiry as to its adaptation and application to your equipment is invited.



DESIGNERS AND MANUFACTURERS OF TURBOCHARGERS AND RELATED MACHINERY

Announcing

Born of Phillips Petroleum Company Research...

"the greatest advance in plastics since 1939."

BACKGROUND OF MARLEX

Polyethylene plastic was first manufactured commercially in England in 1939. It was first produced in the United States in 1943.

Phillips Petroleum Company's interest in the petrochemical raw material (ethylene) from which polyethylene is made dates back 30 years, but it was not until 1954 that Phillips released for evaluation by plastics fabricators its newly-

developed superior type of polyethylene called MARLEX. So enthusiastic has been the reception for this basically new material from which finished plastics products are formed, that the demand for it is now tremendous. This is the background of Phillips decision to build a multi-million dollar plant to produce MARLEX, and to open the way for others to make MARLEX under Phillips licenses.

MARLEX, a revolutionary new family of plastics developed by Phillips Petroleum Company, is opening an entirely new era in the field of plastics technology.

MARLEX represents what is probably the most important forward stride in plastics development since the first commercial production of polyethylene in 1939. Thousands of plastic articles will soon be made better with MARLEX: unbreakable nursing bottles that stand the heat of sterilization; refrigerator trays that don't get brittle with cold; packaging film that resists gases, liquids and moisture vapor; rigid or flexible pipe that won't corrode; battery cases; coated paper; and insulation for wire and cable.

Tougher, Stronger, More Versatile

MARLEX is a new kind of polyethylene . . . tougher, stronger and more versatile than any polyethylene now available. This new Phillips material permits manufacture of stronger products with less material. Under identical test conditions the tensile strength of MARLEX exceeds 4,500 pounds per square inch against less than 2,000 pounds per square inch for a typical present-day polyethylene. It does not soften or deform at steam sterilization temperatures as high as 250° F. It will not become brittle at temperatures

as low as 175° F. below zero. And, it can be made either rigid as desired or flexible as needed.

MARLEX has been used and evaluated by leading processors of many types of plastic products. They report that MARLEX not only opens the way to new applications in the plastics field but will also find wide usage in many products now made of other materials. Commercial plastics manufacturers who have evaluated MARLEX in their plants report that it colors, molds and extrudes beautifully. Here are some typical comments:

"With MARLEX we could undoubtedly make considerable economies and still have superior quality,"

"Molders will welcome a material that is so different and with such obvious appeal."

"MARLEX opens an entirely new potential in the packaging industry . . . !!

"We want to be high on your MARLEX customer list."

"MARLEX opens vast new fields."

Although MARLEX is a greatly improved type of polyethylene, its method of manufacture is truly

MARLEX

revolutionary. Instead of using high temperatures and pressures in the polymerization reaction, MARLEX is made by a continuous process, using a catalyst and operating at low pressure and temperature. This not only results in economies and better control of quality and uniformity, but also permits the production of a whole series of new plastics tailored for the needs of specific applications.

Phillips Chemical Company to Build Large Plant

The huge demand for MARLEX cannot be satisfied at this time. But with the construction of a new plant of greater than 100 million pounds per year capacity by Phillips Chemical Company, a wholly owned subsidiary of Phillips Petroleum Company, fabricators of plastics will soon have substantial supplies available. MARLEX will later be made by other manufacturers who will be licensed to use the Phillips process.

MARLEX is another example of the planned growth and diversification of Phillips. Up-grading raw materials efficiently, economically, and to the benefit of all America is the important business of Phillips Petroleum Company and its subsidiaries.



WHAT MARLEX MEANS

Many new and improved products for the consumer will result from MARLEX... such as unbreakable bottles and utensils that withstand steam sterilization, yet won't get brittle at sub-zero temperatures, better wrapping and packaging materials... all in a wide choice of lovely colors. The consumer will benefit, too, from the economies and improvements resulting from new applications of MARLEX in industry.

WHAT MARLEX MEANS TO MAKERS OF PLASTIC PRODUCTS

MARLEX opens new horizons in plastics processing. It permits the molding and extrusion of new and different types of products. Its ability to withstand heat, and its superb resistance to penetration by moisture, gases, oils and chemicals provide outstanding protection in plastic packages, bottles, tubes and bags. In addition, the greater strength and rigidity that may be obtained with MARLEX makes it possible to manufacture stronger products from less material, resulting in substantial manufacturing economies.

WHAT MARLEX MEANS

MARLEX gives licensees the advantage of a tested and proved manufacturing process for which complete process information, plant design and engineering specifications will be available. Moreover, the versatility and virtually unlimited range of uses for MARLEX assures a large and growing demand for this remarkable material.

WHAT MARLEX MEANS

MARLEX represents another significant Phillips contribution to a strong and prosperous America. Like Phillips participation in atomic research, in the large-scale manufacture of aviation gasoline and jet fuels, and in the production of synthetic rubber, MARLEX promises to play a valuable part in national defense, because it can supplant many critical materials. MARLEX is a new and important phase of the increasingly diversified activities in which Phillips uses petroleum raw materials as a base, thereby providing an ever-widening consumer market and a strong foundation for future stability and growth.

PHILLIPS CHEMICAL COMPANY

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FINANCE BRIEFS

Merritt-Chapman & Scott Corp., key company in Louis E. Wolfson's industrial empire, will soon sell publicly \$25-million new convertible debentures. Proceeds, Wolfson says, will be used to pay off some of the \$41-million debt now outstanding, and to bolster the company's working capital.

Mortgage loans payments are now being handled with greater promptness than ever before. That's what the Mortgage Bankers Assn. of America found in a survey of nearly 2-million widely scattered home loans. It reports that loans three months or more overdue add up to only 0.19% of the GI mortgages surveyed, 0.15% for FHAs, and 0.14% for conventionals.

More big new financing by Consolidated Edison Co. of N. Y. is due later this year. Bank loans, now \$23-million, will probably double by fall, and the comany expects then to refund such debt with new long-term bonds.

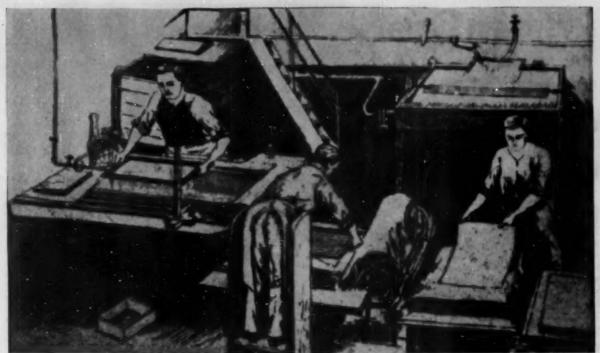
A 1955 stockholder gain of 22,000 is reported by General Motors Corp., which lost 7,000 last year. GM now has over 510,000 common and preferred shareholders. Credit for reversing the downtrend is given to GM's recent new common stock offering of 4.4-million shares, or \$325-million.

Kaiser Steel Corp. says that (1) its sales in the fiscal year ending June 30 will not quite equal the previous year's \$128-million, and (2) earnings will also be less than the \$7.9-million for the 1954 fiscal period.

Rumor denial by Chrysler Corp. says it's not true the company will soon absorb Electric Auto-Lite Co., one of its chief parts suppliers. Auto-Lite officials deny it is currently considering merger with any company.

Debt retirement by Pennsylvania RR in the past two years totals \$83-million and cuts its annual fixed charges by some \$2.5-million. David C. Bevan, Pennsy financial vice-president, sees no new financing needed in the next five years, other than through equipment trust obligations.

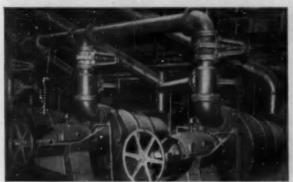
Pure Oil Co. has sold privately \$50-million notes due 1981-1990-\$35-million to Metropolitan Life, \$10-million to John Hancock Mutual Life, and \$5-million to Northwestern Mutual Life. Some \$46.5-million of the proceeds have been used to redeem 442,434 shares of \$5 preferred.



(Courtesy, Dard Hunter Paper Museum, Massachusetts Institute of Technology)

Papermaking . . . the hard way

A handicraft for thousands of years, papermaking found its industrial stride late in the 19th century. Once rags were its chief raw material. Then wood pulp and chemical processing machinery and piping equipment literally lifted the reborn industry from rags to riches. Valves provided the flow control that's so essential in today's highly mechanized production of paper. So it's no wonder modern pulp and paper mills keep relying on Crane valves mainly. Strictly a quality manufacturer for 100 years, Crane has concentrated on making better valves for industry's flow control needs. Crane quality assures a longer life of peak efficiency with rock-bottom maintenance cost, It's the first choice of thrifty buyers everywhere.



SHEAR MAGIC CUTS PULP HANDLING COSTS— Frequent shutdowns for rodding-out valves in pulp lines plagued this large Southern kraft mill. Then like many other mills they replaced with Crane Pulp Stock Valves that shear the pulp fibers to seat tightly. Results: No more shutdowns because Crane valves never clog. Low maintenance costs. Easy valve operation. 18 years of complete satisfaction to date.



CRANE HELPS FIGHT CORROSION—The confidence of pulp and paper men in Crane Chlorine valves—in Crane 18-8 SMo, Craneloy 20, and other Crane corrosion-resistant piping materials, is well placed. For basic metallurgical research at Crane is never-ending, as are quality manufacturing and thorough product testing. Crane Co., General Offices: Chicago 5, Ill. Branches and Wholesalers in all areas.

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CRANE'S FIRST CENTURY...1855-1955

Insider Deals in the Spotlight

SEC chairman's blast at uranium stock profits, and Fulbright's new bill, focus attention on insider trading.

For listed companies, stock trading by officers, directors, large holders is severely regulated.

The question now is how to get at insider deals by uranium fly-by-nighters and the like.

This week, I. Sinclair Armstrong, chairman-designate of the Securities & Exchange Commission, loosed another blast at the rash of wildly speculative uranium offerings hitting the market Armst.ong underlined the recently. complaints of many investors and dealers when he observed that "Many uranium common stocks . . . provide the insiders and underwriters with riskless potential profits at the expense of the

public stockholders."

Armstrong has made no bones in the past about how he feels about the uranium situation (BW-May21'55, p62), but his latest blast spotlights a new angle—the operations of insiders.

• How They Work—Under present law, unlisted securities are not subject to the insider trading regulations of Sec. 16 of the Securities Exchange Act of 1934. Thus, there's no report on deals where insiders of these companies sell to the public stock they hold in their own names. (In the case of some of the uranium companies, promoters have sold for their own account, at the same time the company was making a public offering, in the knowledge that the offering would be a flop. In this way, they competed with their own company for money.) Nor is there any report on short selling by insiders that depresses the market price of the stock temporarily.

For companies with securities listed on a national exchange, however, any stock sales or purchases by insidersofficers, directors, or beneficial owners of more than 10% of the stock-must be reported monthly. Short sales by

insiders are illegal.

· Remedies-Bilis to put the unlisted companies under Sec. 16 have been introduced in the last three Congresses, but have never gone beyond committee.

Sen. J. William Fulbright (D-Ark.), chairman of the Senate Banking Committee, introduced this week his longexpected bill to put trading in unlisted securities under Securities & Exchange Commission regulation. The bill is a product of the committee's recent stock market inquiry, and would require, among other things, reports on insider trading in securities covered. But because its provisions, as introduced, were restricted to larger companies, it would be unlikely to have much effect on

fly-by-night uranium deals.

Armstrong has hopes of fighting insider deals in uranium by other methods-by restricting the use of options, warrants, and promotional stock by insiders, and by finding a way to circumvent the intrastate exemption. This exempts from SEC regulation issues floated within one state. Uranium companies have used it to float stock in Nevada or Colorado, then shifted the stock quickly into interstate trading on a secondary market basis. The offering, though legally exempted, is in effect an interstate one.

• Then and Now-The insider trading rules were written 20 years ago, at a time when feeling against insiders' transactions ran high because of their free-wheeling activities just before the 1929 market crash. For example, one pool of traders, which included a number of insiders, bought and sold stock of Radio Corp. of America, and in a seven-day period made over \$5-million on 1.5-million shares. It is estimated that there were over 100 such pools, sparked by insiders, trading on the Big

Board in 1929.

But these rules have taken on a new importance in recent years because of the spate of mergers and consolidations and the increasing use of stock options and bonuses of equity stock-the only security covered by the rules. Because of the stiff penalties for many offenses, and the complex nature of Sec. 16, corporate lawyers are taking care that officers and directors don't run afoul of insider rules.

• The Law Says-When Congress wrote the rule, it moved against insider activities in three different ways:

· It required full disclosure of any trading by an officer, director, or beneficial owner of more than 10% of the stock of a company registered on a national stock exchange. This means the person involved must file an initial report with SEC when he first becomes holder of the company's stock-or, if he is a stockholder who just became an officer or director, when he first gets

the job. After that he must file monthly reports noting any change in his holdings over the previous 30 days. Even if he still holds the same number of shares, but bought and sold some stock in that month, he must report it.

• The law took the profit motive out of short-swing trading by an insider by providing that any profits made by an insider on the company's stock in a short-swing trade (within six months) may be recovered either by the company or by any security holder of the company acting in the company's behalf. As originally written, the act entirely forbade short-swing trading by insiders, but this was considered too harsh and was rewritten. If the corporation doesn't act to recover this profit within 60 days-and it is easy to see how a large holder of stock or an influential officer could stall such procedure-any security-holder move to do so. The courts have held that the term "any security-holder" means just that-bondholders, or even a bank holding short-term obligations of the company. The plaintiff need not have been a security holder at the time the insider made his profit, either. And the insider can lose two ways. He pays a straight income tax on his shortterm "insider profit," but gets no tax refund in the event of a recovery by the corporation.

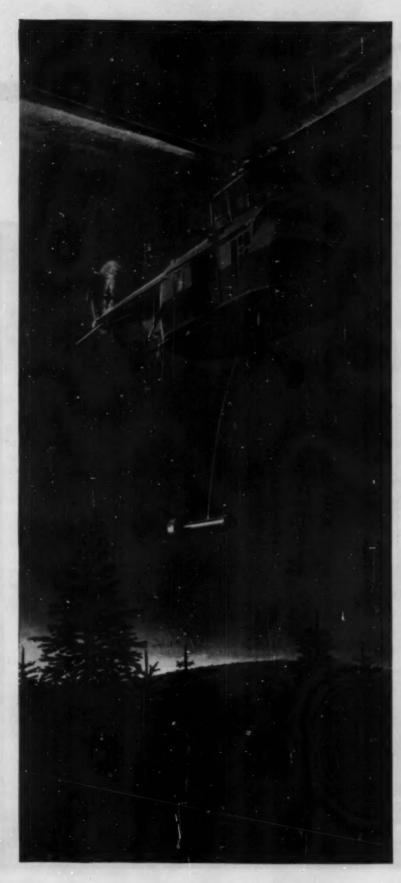
· Congress also prohibited short selling and selling against the boxthat is, borrowing stock to make delivery on a short sale while the seller actually has the stock in his own ac-

count, or in a safe deposit box.
• Enforcement-SEC's authority to enforce these rules differs in each of the three cases. In the first case, wilful failure to disclose fully any inside transactions is punishable by a maximum penalty of \$10,000 fine and two years imprisonment; this reflects the tough attitude 1934 lawmakers had toward

stock market sharpies.

On recovery of short-swing insider profits, nothing can compel the corporation to take action, except, of course, the knowledge that a security holder almost certainly will take up the cudgels to keep profits on insider trading in the company coffers. And the security holder has plenty of leeway to go ahead with a suit against the insider. He will probably be reimbursed for some percentage of his legal expenses in the action, and he doesn't even have to worry about the normal statute of limitations-in some cases, securities holders have instituted action as long as eight years after the insider made his profit.

The prohibition against short selling



OPERATION TREETOP

speeds the detailing of ore deposits

MODERN MINING PROSPECTORS now can probe target areas with the helicopter-borne, high sensitivity magnetometer. These close-up, highly detailed studies are flown "on the deck" over the ore bearing area. They replace the painful groundwork once necessary in detailing an ore body. There's no brush cutting, no slow ground readings to be made. Now the treetop height survey quickly provides a continuous magnetic record that's more significant and less costly than detailed ground surveys.*

"Operation Treetop" is only part of the world-wide exploration activities of AERO Service—pioneer and leader in aerial mapping. AERO crews have flown over a million miles in conventional aircraft and helicopters, uncovering important deposits of iron, nickel, chrome, titanium, and other minerals. In petroleum reconnaissance, the magnetometer reveals important geological data for millions of acres in a single project.

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AIRBORNE MAGNETOMETER SURVEYS SCINTILLATION COUNTER SURVEYS PRECISE AERIAL MOSAICS PHOTOGRAPHIC MAPS PLANIMETRIC MAPS RELIEF MODELS SHORAN MAPPING Comfort story of new 24-floor building—the Second National Bank of Houston

Honeywell Electronics saves

The Second National Bank building of Houston, now under construction, will have the world's most advanced temperature control system - Honeywell electronic.



thousands of dollars

Central control room is key to more efficient temperature control

THE NEW ERA of electronic efficiency and comfort is coming of age in the southwest. Completion of the new home of the Second National Bank of Houston sometime next year will mark an important step in this era.

The reason for the new efficiency in the Second National Bank is the master control center. Here, a single operator has at his finger tips control over temperatures throughout the 24-story building.

The reason for the new comfort is the flexibility and fast response of the electronic controls. The purpose is to create a more productive environment where people feel, think, and work more energetically and efficiently.

Strategically placed Honeywell thermostats will compensate for every possible occupany, exposure and use comfort factor. The thermostats concealed in ducts will control 318 individual comfort zones, making the new building supercomfortable for employees, clients and tenants.

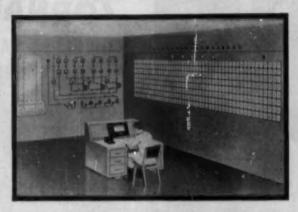
The techniques used in solving these comfort problems can help you provide the Indoor Weather required for your facilities — for a Honeywell Electronic Customized Temperature Control installation is designed to fit the needs of the building and its occupants.

For comfortable, more productive temperature in new or existing buildings—of any size—specify Honeywell Electronic Temperature Control

Whether it's a bank, office, church, school, motel, hospital, factory—any building of any size—new or existing, flexible Honeywell Electronic Customized Temperature Control can help meet your heating, ventilating, air conditioning and industrial control problems.

You'll have more comfort, efficiency and maintenance economy—and you'll save fuel, too.

For full facts on Honeywell Electronic Customized Temperature Control, and the economical Honeywell Periodic Maintenance Plan, call your architect, engineer or local Honeywell Office. Or write Honeywell, Dept. BW-5-79, Minneapolis 8, Minnesota.



Master Control Center gives quick service to tenants and reduces daily building operating costs.

Proudly displayed before the public on the first floor of the building will be the master control center. The Colorgraphic panel at the rear shows at a glance and records the operating conditions of the basic heating and air conditioning plant, to insure peak efficiency and economy.

A single operator can maintain complete control over the entire heating and cooling system. On his desk, he can read the temperature at 318 key points throughout the building. At the panel on the right, he can adjust any of these temperatures to suit the individual's exact requirements. Ventilation in any area can also be adjusted for maximum economy and comfort.

With this master control center, maximum service is given to the building occupants at a minimum cost. Many thousands of dollars are saved by eliminating trips through the building to check temperatures and adjust thermostats. Only Honeywell can provide this coordinated electronic control and recording system.



Without Honoywell Electronic Control, 518 check points

318 points would have to be checked at the thermostat.

With Hannywell Electronic Control, 1 shock point

An operator at a panel will be able to check and adjust all 318 remotely.

Honeywell

Electronic Controls



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nonum Frantsonn, arconnet, E. E. Boary, fr., consulting engineer. Box F. Taylor, engineering consultant. W. S. Ballows Construction Corporation, general contractor, Braus-Frank Co., mechanical contractor.



This is the introduction of another Tornado vacuum cleaner developed to meet the needs of "Modern Maintenance,"

The new Tornado Model 240 Noiseless is the perfect answer for cleaning conditions where noise is a factor, and yet powerful suction is necessary for speed and thorough cleaning.

What's more—it does both wet or dry pickup with equal efficiency.

The powerful 1 H.P. multiple stage motor has a separate cooling system completely isolated from the suction or cleaning air.

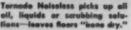
For all industrial or institutional use, Tornado Noiseless is your answer for faster, efficient, noise-free cleaning.

free cleaning.

We'll be glad to give you an "Onthe-spot" demonstration. Be sure to
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250 M.P.H. suction speeds pick up all dirt, dust, even metal chips, faster and easier.





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is the only provision that actually says it is "unlawful" to act in a certain way; the other sections simply mark out courses of conduct.

• Interpreting-A prime problem in Sec. 16, as with most legislation, is definition-the question of just what the terms mean. Perhaps the term that gives SEC most trouble, and keeps officials shifting around most frequently, is "equity security." Sec. 16 applies only to equity securities, and the act itself defines them as: "Any stock or similar security; or any security convertible, with or without consideration, into such a security, or carrying any warrant or right to subscribe to or purchase such a security; or any such warrant or right; or any other security which the commission shall deem to be of similar nature and consider necessary or appropriate, by such rules and regulations as it may prescribe in the public interest or for the protection of investors, to treat as an equity security.'

This sort of language is one reason why Armstrong, as chairman-designate of SEC, calls the rules "exceedingly complex and prolix," and why judges get gray trying to interpret meaning and intent.

But obviously, convertible issues, warrants, options, and other such devices that provide for future acquisition of stock come under the SEC definition; and trading in these securities is just as much subject to rules of Sec. 16 as the equity stock itself. The Commission not long ago found that calls (BW-Apr.30'55,p105), spreads, and straddles were also subject to the rule.

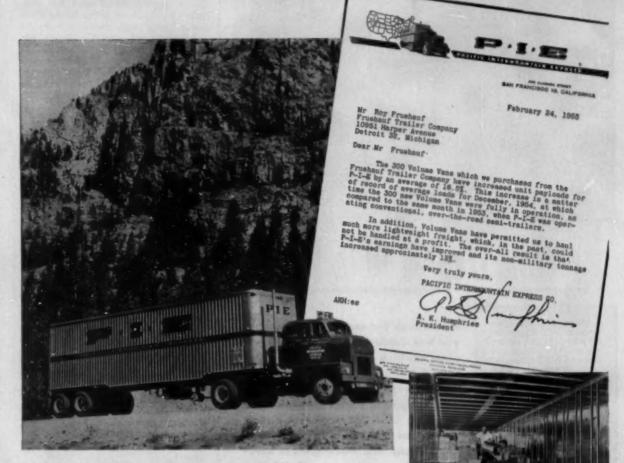
A good rule of thumb is that if any security is represented by an equity security—and this includes devices such as voting trust certificates—it can be considered subject to Sec. 16 rules.

• Who's an Insider?—Another tough definition for the courts, the comission, and sometimes for the corporation itself, is: Just what is an officer?

One example: A case instituted by a Twentieth Century-Fox Film Corp. shareholder in 1949 against the production manager of that company under the recovery of profits provision. The court first ruled in favor of the de-fendant on the ground that he was not an officer of the corporation. But the Commission argued in the appellate court that the act doesn't really define what an officer is, that the individual's functions must be examined to determine whether or not he is in a position of responsibility in corporate affairs. So this production manager, who functioned more as a comptroller, was eventually ruled to be an insider in terms of Sec. 16's definition.

By the same token, an employee who performs an officer's functions

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PARTS AND SERVICE FACILITIES EVERY-WHERE ... NEAR AS THE NEAREST PHONE

when the officer is absent, is an insider under SEC rules.

· Exemptions-There are certain transactions which SEC has exempted from the workings of its insider trading legislation. These are:

• Trades by registered investment companies which are exempted from Sec. 17A of the Investment Company

· Acquisitions of stock and nontransferable options under bonus plans. Since many such plans provide for bonus payments every 12 months, any sale would necessarily be within six months of one of the bonus payments. If the acquisitions were not exempt, use of bonus plans to compensate executives would be frustrated.

· Already approved transactions of holding companies registered under the Public Utility Holding Company Act.

· In sales of securities that were purchased via options, the part of the profit that actually represents the increased value of the option itself is

exempted from recovery.

· In any merger between a parent company and wholly owned subsidiaries, or in other mergers where one huge company gobbles up a very small one (the rule says where one company has assets representing over 85% of the book value of the companies involved) the exchange of securities for assets does not come under the rule. Thus, if you are a stockholding vicepresident of a subsidiary company and have stock distributed to you as a result of the parent company absorbing its affiliate, that acquisition is exempt.

· Critics-There have been many criticisms directed at the insider trading regulations-and not all by insiders. For instance, say some investors, what good are monthly reports in a market as volatile as the stock market? Information a month old isn't much good, they say, in the sort of markets we've had

There's also the contention that covering only equity stock isn't enough, that all corporate securities should be included.

· Plenty-While offenses meet with stiff punishment, there is still plenty of insider trading within the limits of Sec. 16. Wall Street's Hemphill, Noyes & Co., in a study of insider trading for 1954, found that 13% of the 3-billion shares listed on the New York Stock Exchange were subjected to insider trading, with 6% done by officers or directors of companies, the remaining 7% by beneficial owners of more than 10% of the stock.

The study also found that only 23% of all 1,043 companies listed on the Big Board had 1% or less of their stock held by officers or directors while 32% of the companies had 10% or more

held by officers or directors.



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The manager—can compete for patronage with newer hotels and motels and is able to attract and hold better employees.

The housekeeper—gets more efficiency from her staff. Air conditioning filters out dust and dirt. Bedspreads and blankets require fewer launderings; draperies stay fresh longer. The guest-chooses the climate he wants in his room by merely turning a dial. Cool in summer, warm in winter, it's always a pleasure to stop here.

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ALATHON® polyethylane rasis has good chemical resistance and excellent dielectric properties.

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TEFLON® tetrafluorosthylene resin is especially suited for usuander severe service conditions. No chemicals normally found in industry attack it. "Teflon" can be used where service temperatures reach 500°F. Outstanding dielectric properties make it ideal for electronic applications. This porous filter of "Teflon" handles corrosive liquids and gases.



LUCITE® accylie resin is used to make products that are both functional and decorative. Heautiful "Lucits" is produced clear or necior. Produces of "Lucite" are shatter-resistant, have good dimensional stability and possess excellent resistance to weathering. Easy-to-read, attractive instrument panel of "Lucite" are found on the 1955 automobiles.



ZVTEL® nylon resin is a versatile Du Pont engineering material for mechanical applications. Parts made of it are strong, resilient, and lightweight. Often they require no lubrication. "Zytel" can be economically mass-protuced by injection modeling or entrusion. Here is on injected-modeled pinion of "Zytel" which has replaced metal in a movie projector.

materials helped solve produce a better product



Du Pont engineering materials improve design!
The magnetic impeller on this "Jet Spray
Cooler" case three Du Pont engineering materials: "Alathon" polyethylene resin, "Teflon" tetrafluoroethylene resin and "Lacite" acrylie resin. (Cooler manufactured by Jet Spray Corporation, Boston 29, Massachusetts.)



BETTER THINGS FOR BETTER LIVING ... THROUGH CHEMISTRY

Dependable mixing action, long service life assured with Jet Spray Cooler's *Magna-Impella*

This drink dispenser has an interesting operating story—centered around the use of three Du Pont engineering materials. Unlike the usual dispenser, there is no mechanical linkage to the mixing motor, no stuffing box. Rather, liquids are kept thoroughly mixed by magnetic action . . . are sprayed up inside the transparent bowl to help stimulate sales.

Here's how it works: A permanent magnet is imbedded in an impeller of Du Pont "Alathon." "Alathon" is used because it is tough, readily molded around inserts, and chemically inert. This magnetic impeller sits in a well on the bottom of the bowl. Directly below is a powerful motor-driven horseshoe magnet. The motor turns the horseshoe magnet, which in turn spins the impeller. Liquids are forced up through a connecting tube of "Lucite" and are circulated within the bowl.

The impeller revolves on a bushing of Du Pont "Teflon." This engineering material has an extremely low coefficient of friction and zero moisture absorption. It needs no oiling, remains dimensionally stable. The bowl for the Jet Spray Cooler is injection-molded of "Lucite" . . . outstanding for its sparkling beauty, resistance to discoloration, and ease of cleaning.

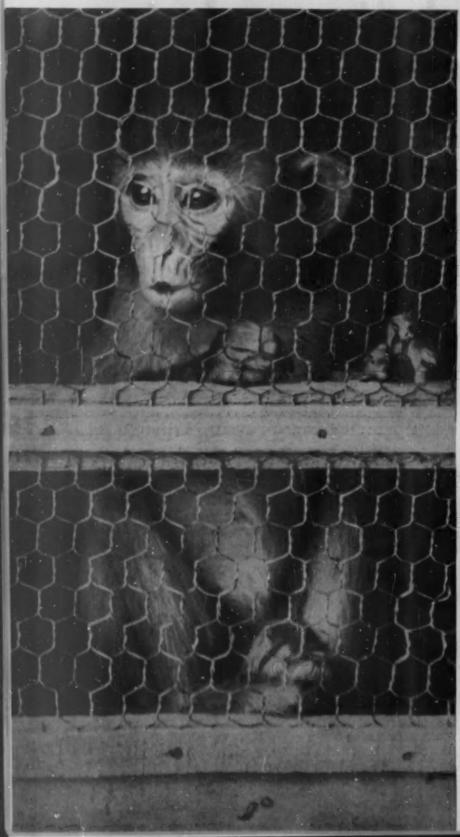
Have you investigated the unique properties of the Du Pont family of engineering materials: "Alathon" polyethylene resin, "Teflon" tetrafluoroethylene resin, and "Lucite" acrylic resin — as well as "Zytel" nylon resin. The applications shown here are typical product improvements — possible when design and service requirements are evaluated in terms of the properties of these versatile engineering materials. For further information on their properties and uses, clip the coupon below or write to E. I. du Pont de Nemours & Co. (Inc.), Polychemicals Department, Room 335 Du Pont Building, Wilmington 98, Delaware.

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Please send me more information on the Du Pont engineering materials checked:''Alathon'' polyethylene resin;''Teflon'' tetrafluoroethylene resin;'''Zytel'' acrylic resin;'''Zytel'' nylon resin. I am interested in evaluating these materials for	Name
polyethylene reain; "Teflon" tetrafluoroethyl- ene resin; "Lucite" acrylic resin; "Zytel" nylon resin. I am interest- ed in evaluating these	Position Type of Business Street Address City

INDUSTRIES



The rhesus monkey (left), important in the manufacture of polio vaccine, has suddenly become a big item of world commerce. This annoys the monkey. It also annoys many of the men engaged in the commerce. Here's a picture of . . .

A Howling

Last week, in the small dark hours of a tranquil morning, a four-engined cargo plane belonging to KLM Royal Dutch Airlines put down at New York's Idlewild Airport. The great field was bleak and deserted. Only a few people straggled out to meet the big DC-4 as it lumbered across the desolate expanse of runway. When the plane's motors died, the silence was immense.

The crewmen elimbed out with illconcealed haste. They seemed to find some special enjoyment in the fresh night air.

"Brothert" one of them said, with a Dutch accent, as he came down the boarding ramp. That was all he said. He hurried away into the darkness.

Then a ground attendant opened the big freight doors in the plane's side. Immediately, two alien things penetrated the placid air. One was a large odor. The other was a raucous, uncarthly shricking and gibbering. Both were made by the plane's cargo—800 rhesus monkeys from India.

• In Commerce—The monkeys in these pictures are rhesus monkeys. Thousands of them fly into Idlewild and other U.S. airports every month, in the planes of many airlines. They go by truck, train, and more planes to



CHECKUP: Monkeys at polio foundation's farm are tested for various diseases.

Trade in Monkeys

many scattered points across the country. Some 3,000 to 4,000 a month check in at the site of these pictures—a monkey farm in South Carolina maintained by the National Foundation for Infantile Paralysis.

The unprecedented demand for monkeys stems from the fight against poliomyelitis. Monkeys—principally India's rhesus—are used both in polio research and in production of the Salk vaccine. Now that the vaccine is moving into full-scale production (BW—Apr.16'55, pl 36), the demand is terrific. Unofficial estimates of the number of monkeys to be brought into the country this year start at 100,000 and range

Reports from the airlines make the 100,000 figure look small. Scaboard & Western Airlines, Inc., for instance, says that it alone brought in 75,000 monkeys last year. Pan American World Airways, Inc., handled 10,000. KLM says it is now hauling the animals in at an average rate of more than 3,000 a month. Among other airlines in the picture are Airwork, Ltd., a British company that runs scheduled cargo flights over the Atlantic and occasionally picks up monkeys; Transocean Air Lines, Inc., which has brought in "many thousand" during the past few

months; and British Overseas Airways Corp., which cerries vast hordes of monkeys from Asia to London, usually turning them over to other airlines for the transatlantic trip.

 Customers—The recipients of all this gibbering cargo are the National Foundation for Infantile Paralysis and the pharmaceutical companies that make polio vaccine.

The foundation acts as a sort of monkey-collecting agency, handing the creatures out free to research grantees and selling them at cost (around \$35 apiece) to vaccine manufacturers. It buys its monkeys from trappers and dealers in India and other monkey-bearing countries, makes its own arrangements for air shipment, and collects the animals on a \$225,000 farm (pictures) at Pritchardville, S. C. The monkeys loaf and grow fat here for about three weeks each.

The vaccine manufacturers as a group do not depend wholly on the polio foundation for their monkeys. Some, like the foundation, have their own monkey buyers in foreign lands. Others depend largely on U.S. dealers, who contract to deliver shrieking multitudes direct to the manufacturers' back doors.

· Pet Shop-One such dealer is Tref-



MONKEY FARM run by the polio foundation ships to vaccine makers.

flich's Bird & Animal Co., Inc., which maintains its weird headquarters near New York City's financial district. Trefflich's claims to be the nation's biggest supplier of zoo, household, and research animals. It is famous as the company from whose building some 100 monkeys escaped one spring day in 1946, working gleeful havoc along the Wall Street area's sombre canyons.

Like most U.S. monkey suppliers, Trefflich's does not specialize. It will sell you a hippopotamus or an aardvark if you should happen to want one, and





LUNCHEON: They are fed special vitamin-packed biscuits-probably better fare than they had at home.



SHIPPING OUT: From the farm, they go to laboratories across the country.



Well of course they didn't mention my name, but it's perfectly clear who they mean when they say "top management."

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A REPORT ON

METALWORKING OPPORTUNITIES

IN MANITOBA, CANADA

from a recently completed impartial survey*

Products and subgroups of the metalworking industry which offer opportunities to Manitoba producers include: cutlery, copper and brass products, hand and power tools, hardware and fittings, metal fastenings, athletic and sporting equipment, metal containers, instruments, jewelry and silverware, oil well equipment, household goods and appliances, sheetmetal products, castings and forgings, electrical machinery and equipment, industrial equipment and parts, office equipment, farm and construction equipment and supporting industries.

Manitoba's central location in the Prairie region of Canada makes it an excellent manufacturing and distribution centre for the Prairie Provinces and Western Ontario. Low-weight, high-value items can also be economically distributed to the national and export markets.

TIME

*Name of the research company with a copy of its report will be mailed on request to interested and responsible parties,

MANITOBA DEPARTMENT OF INDUSTRY AND COMMERCE

Legislative Building, Winnipeg, Canada

". . . it is advisable, the manual notes, to speak to gibbons and apes . . ."

MONKEYS starts on p. 62

it keeps its finger on the pulse of the crocodile market. But according to its founder and president, a big, boisterous German named Henry Trefflich, monkeys have always bulked large in the company's business. Trefflich says he handled 2,000 monkeys in his first year of business, 1928, and expects to handle 60,000 to 100,000 during 1955.

• Personality—The importance of monkeys in Trefflich's affairs is explained largely by the fact that monkeys are extremely popular with medical researchers. This applies particularly to the macaques, a family of which the rhesus is probably the most important member. Macaques are easy to come by; they live across great areas of Asia. They are similar to man in many respects. They are hardy, and they are not particularly finicky about what theyeat.

The rhesus is a particular favorite with medical men. Rhesus monkeys are heavily concentrated in India-so heavily that in at least one Indian state, harassed by their raids on crops, there is a 3-rupee bounty on them. This concentration makes it easy to collect the monkeys in large numbers. Because of that, and because of various factors in the monkeys' biological makeup, laboratories throughout the world seek them avidly. They have played an important part in studies of blood (the term "RH factor" is a contraction of "rhesus factor"); in development of a vellow fever vaccine; in research on silicosis, tuberculosis, and various aspects of psychology; and in all sorts of other medical problems.

Rhesus monkeys are small, light brown creatures with large, inquisitively staring eyes. Unlike many other monkeys, they have short tails that are of hardly any use whatsoever. A full-grown rhesus, according to Trefflich's, might attain a weight of 20 lb. and a height of somewhere between 2½ ft. and 3 ft. The kind preferred for polio work is a young monkey, weighing under 10 lb.

• Capture—It is not hard to catch rhesus monkeys if you put your mind to it, Trefflich's asserts. The usual method is to spread a large net on the ground and string another net above it. You put food on the lower net, utter a short series of squeaks and hoots, and stand back. Rhesus monkeys generally travel in small groups, each led by an old male; and if you are lucky you will soon have several such groups peacefully dining on your net. You

then drop your upper net on the congregation, reaping a harvest of anywhere from a dozen to several dozen monkeys.

If you are unlucky, a monkey of unusual experience and perception will chance by before you drop your upper net. This monkey will warn the others, and they will depart hurriedly. If you are still more unlucky, you will catch part of the group and be attacked viciously by the others. Several trappers in India have been severely injured this way; and one, reportedly, has been killed.

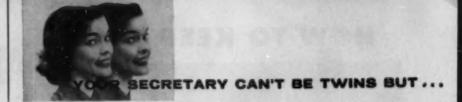
• Transit—Monkeys in hand, your next problem is to get them to the U.S. You usually send them by air; for monkeys are susceptible to seasickness, and in any case both humane and economic considerations dictate that the journey in close quarters be as short as possible. You can charter a plane—as Trefflich does, for \$25,000 to \$30,000 per craft—or pay regular freight rates.

The airlines by now consider themselves old hands in the business of transporting monkeys. Some of them-KLM and Seaboard, for instance—consider monkey-hauling merely an extension of an already large traffic in animals. Seaboard decorates animal crates with labels saying "Handle with Love." KLM has manuals that explain in detail how to care for various kinds of creatures in flight. The section on monkeys advises that "monkeys like to drink from a cup or bottle held out to them." It suggests that if monkeys start quarreling, which they frequently do, their cages should be covered with tarpaulins. "It is advisable," the manual notes further, "to speak to gibbons and anthropoid apes."

Rhesus monkeys are not hard to please when it comes to food. The KLM manual specifies such common fare as apples, lettuce, and bread. The only time feeding problems arise is when a flight is delayed or a route changed by weather. Food is efficiently waiting at one airport, but the plane is forced to land at another hundreds of miles away. Alvin E. Devinson, KLM cargo executive, remembers a frantic Sunday morning not long ago when this happened. Levinson was charged with the task of finding 800 loaves of bread on a few hours' notice.

Most live-cargo airlines have specially trained attendants who accompany animals in flight, much as a hostess accompanies human passengers. Some airports maintain quarters where animals can while away the hours between flights. "On the whole," one airline official says, "the only reason monkeys complain about our service is that they are born complainers."

 Losses—According to Trefflich, about 1% of the monkeys die in flight. Most of these deaths, he says, are due to causes that had their beginnings in the



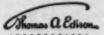


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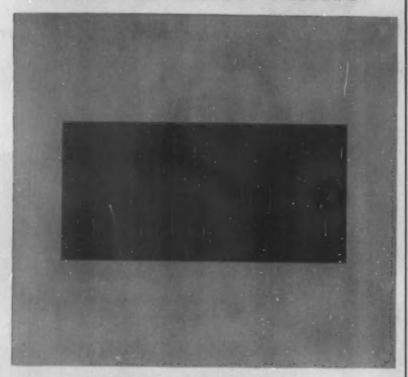
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jungle before the animals were caught.

It is very rare that monkeys escape. However, it has been known to happen. KLM's cargo warehouse at Idlewild, for instance, houses an independent-minded rhesus monkey who escaped in December and has lived there ever since. His name is Tommy. He makes his home in a dense jungle of pipes and rafters under the warehouse roof. For food, he depends on sandwiches and other lunch items offered by or stolen from the warehouse workers.

 Incident—The biggest single loss of monkeys occurred in March, when several hundred accidentally suffocated during a stopover in England. This incident brought to the surface some suppressed international tensions. It angered many people in India—especially Hindus, some of whom consider the monkey a sacred beast, and who in any case object strongly to all kinds of avoidable killing. The Indian government immediately banned export of monkeys.

A U.S. delegation managed to get the ban lifted partway. The Indian government decreed that nobody could take monkeys out of the country unless he guaranteed that (1) they would be treated with utmost care and kindness in transit, and (2) they would be used only for the highest humanitarian

• Other Sources—This led to a good deal of nervousness in the monkeysupply industry. As many observers see it, another accident like the one in London could bring on another ban—perhaps one not so easily lifted. In this sombre light, suppliers and users are intensifying the search for other

sources of monkeys.

According to Dr. Theodore Boyd, the polio foundation's assistant research director, the rhesus monkey is used in making Salk vaccine chiefly because it is in biggest and easiest supply. Other breeds of monkey could conceivably be substituted—for instance, the Philippine Islands' cynomolgus monkey, which is now widely used for testing the vaccine. The trouble is that these other breeds of monkey represent supply problems.

Ideas for dodging the supply problem have had little success so far. It is not feasible to try breeding rhesus monkeys, for they multiply slowly, like human beings. It has not proved practical to use mice or guinea pigs or other animals in vaccine manufacture, for the polio virus prefers the cells of primates.

The main line of search now is for a cheap way to cultivate animal cells in the laboratory—to set up a sort of ever-replenished bank of cells on which to grow polio virus.

But for the time being, the only answer is more monkeys.

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HILL



THROUGH TEXAS DUST, pipeline builders keep on schedule, slamming in a new line, and . . .

Spreading the Pipeline Web

The dust and clatter of pipelaying operations, like that you see in the picture above, are setting up quite a racket around the country right now. Men from the pipeline industry are sending their lines snaking out from natural gas and oilfields, adding trunks and branches to their vast network, faster than ever before.

The industry is already predicting that 1955 will be its record year for expansion of capacity.

This year's sudden spurt in the web's growth is part of the industry's three-year, \$2-billion expansion program.

• Today's Task—Last year, the industry installed 17,500 mi. of new lines for gathering, transmitting, and distributing natural gas alone. So far this year, another 11,000 mi. of natural gas transmission lines have been put in, according to the tally of the Oil & Gas Jour-

nal. Petroleum pipelines for crude oil and its products aren't growing quite so fast, but in the next two years another 11,432 mi. will be added to their network.

While they're enlarging the network, pipeline operators are also:

 Going in for bigger-sized lines.
 A 36-in, line gives them more capacity than two 24-in, lines.

 Becoming more cost conscious, looking for more efficient operation through use of automatic controls.

I. Coming of Age

Most operators feel that the pipeline industry is only just coming of age. J. W. Meehan, president of Pure Oil's Pure Transportation Co., says: "The surface hasn't been scratched yet for oil products. There'll be lots of

pipeline construction in the next few years to supply secondary, or smaller metropolitan areas, with finished products."

Construction of long lines—the more than 1,000-mile-long trunks—probably will be booming in Canada in another two or three years. And pipeline operators are also dreaming of other untouched fields. They see a big future for lines that will transmit odd-ball products, such as pulverized coal and liquid cement.

'The U.S.' biggest current pipeline installation job is one that will connect New Mexico and Colorado with Oregon and Washington. It will introduce natural gas to the Pacific Northwest

Pacific Northwest Pipeline Corp. is handling the \$160-million project, and Fish Engineering Corp., parent of

PROUD OF NEW WING



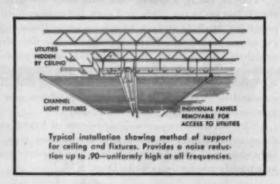
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". . . some companies are converting their crude oil lines to product carriers . . ."

PIPELINES starts on p. 68

Pacific Northwest Pipeline Corp., has awarded contracts totaling more than \$11-million for the first 655 mi. of the line.

Field work for the remainder of the line is running on schedule, and Fish Engineering sets completion date at mid-1956.

Four other big gas lines are in the works. They're being handled by: Atlantic Seaboard Corp., a \$14.6-million job; Colorado Interstate Gas Co., \$23.2-million; Northern Natural Gas Co., \$45-million; and Texas Eastern Penn Jersey Transmission Corp., \$30.7-million. All four are branch lines that will loop around transmission lines to connect with major markets or storage areas.

Proposals for two more major gas pipeline projects are before the Federal Power Commission. They are: American Louisiana Pipeline Co.'s plan for a \$130-million system between Louisiana and Detroit; and Texas Eastern Transmission Co.'s \$71-million project to increase capacity of its "Big Inch" pipeline system.

II. More for Products

In petroleum operations, there has been a shift in feeds for the new pipelines. "Crude oil pipelines have hit a plateau," says R. E. Nelson, an assistant operations manager for Standard Oil Co. (Ind.). The U.S. has about all the crude oil lines it needs.

There is room, however, for expansion in lines carrying intermediate and end products.

The projected mileage figures for the next few years prove that. Here's how they break down, according to the Committee for Pipeline Companies, a Washington (D. C.) outfit: About 4,700 mi. of crude oil lines will be added in the next two years, at a cost of more than \$262-million. Product lines will do better: Operators will put in over 6,719 mi. by 1957, and the tab for that will be almost \$328-million.

Some companies are converting their crude oil lines to product carriers. All told, an additional 2,400 mi. are being switched in this way. Expansion figures don't tell the whole story. From them, you might think that some operators have come to a standstill in their construction. But most of those that seem to be coasting are subsidiaries of larger companies that have still other subsid-

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". . . to the pipeline men automation means remote control and measurement of flow . . ."

PIPELINES starts on p. 68

iaries that can be expanded more

There's the case of a Midwestern natural gas concern that has two pipeline subsidiaries. One has lately ridden on its current capacity, without adding a single foot of pipe. But the parent firm's other branch is going through a sizable expansion. Here is the gimmick: The second subsidiary has long-standing contracts at lower rates, gets gas more cheaply from the sources than its branch brother. So the parent naturally expands in the direction that costs it the least money.

• Growing Girth—Bigger-sized pipelines will help boost capacity. Pacific Northwest Corp. has sensed the need for bigger pipe sizes, before any of its line is laid. One branch of its line to the Canadian border originally called for sections of 6-in. to 18-in. pipe. Now the firm will ask FPC approval for a 26-in. line.

The record breaker in pipe sizes belongs to Transcontinental Gas Pipe Line Corp. It was the first to install a line measuring 36 in. It used that on a 53-mi.-long loop on its Texas to New York system. But soon, Trans Canada Pipe Lines, Ltd. will share this record. It will use 36-in. pipe in part of its 2,200-mi. line from Alberta to Toronto and Montreal. This \$300-million system will start construction some time this year.

III. Automatic Controls

Operators are looking more and more to automation to beat down costs on the ever-expanding natural gas and oil pipeline networks.

Says a division manager of Gulf Refining Co.: "Anything that will help cut expenses as much as the installation of automatic pipeline stations is bound to get a strong play from pipeline owners."

To the pipeline men, automation means remote control and measurement of flow. It's a simpler form of the automatic control method that refineries are using in their plants at the present time.

One of the latest to seek economics this way is Gulf Interstate Gas Co. It has an O.K. from the government to build a robot compressor station near Stanton, Ky., that will be controlled from a central station located about 80 mi. away.



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Raw wool arrives at textile mills in the form of fleeces which have been graded and packed in bags or bales.

As much as 70% of the weight of raw wool may consist of impurities which must be removed before further processing. These impurities include natural oils and fats, suint (salts from perspiration), sand, dirt, burrs and plant fragments. The process of removing these impurities is known as scouring.

About 90% of all wool processed in the United States is scoured by the water-alkali-soap method. The fleeces are moved along through several long vats. Agitation must be kept to a minimum to prevent felting (matting together of the wool fibers). Typically, the first vat may contain a warm water rinse only, the second and third, warmer water with alkali and soap, and the fourth and fifth, water rinses.

Soda ash is the alkali used. Strong alkalies attack wool fibers, but soda ash is mild enough that it will not harm the wool if carefully controlled. It is also inexpensive and an effective detergent. It emulsifies the wool fats and suspends loose dirt. It also saponifies (changes into soluble soaps) any fatty acids present.

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Plastic Boats

Molded Fiberglass Co. fits out auto body plant so it can make hulls-and taps a good market.

Last fall, Molded Fiberglass Co., Ashtabula, Ohio, had more molding capacity than it knew what to do with. Orders for plastic automobile bodies for Chevrolet's Corvette sports cars kept the plant busy only three or four days a month.

So the company began casting around for a new product that would keep its plant busy on a full-time basis. came up with a whopper-plastic boat hulls, a product well-suited to the needs of the plant equipment. Gearing the plant for making boat hulls cost the firm \$75,000 for a new set of molding dies. And now business is rosy once more for Molded Fiberglass. In fact, the company is thinking in terms of expansion.

· Price Is Lower-The plastic hulls are sold to some of the leading boat makers, who add trim and fittings and sell the finished boats for about \$395. That is about \$125 cheaper than a wooden boat built to the same dimensions. The boat manufacturers have come to like the plastic version and its

Molded Fiberglass is producing hulls at 250 per month, a comfortable rate that permits employees to learn the ropes of the new product. Before the end of the month, the firm plans to boost the output to 300, and later on to 500. And it wants to broaden its line of boat products: more hulls, and accessory parts, such as seats and gunwales. It has the money salted away for the expansion, and right now is

shopping around for a plant site. Molded Fiberglass didn't step into an untouched market. Other pioneers had already established plastic boats reinforced with glass fibers. But Robert Morrison, the company president, felt that the advantages of die molding would lure customers. The early plastic jobs were molded by hand, and needed at least one day to build. Some had smooth sides that gave low strength

in flexing motions.

• Lapstrake Construction-To start with, Molded Fiberglass' techniquemolding the hulls by pressing two matched dies together-takes less time, and consequently is cheaper in the long run. Morrison also had the dies cut for a lapstrake construction. Each long narrow plank along the hull's side slightly overlaps the edge of the plank below it. Lapstraking in plastics produced a stronger hull, and is an eye



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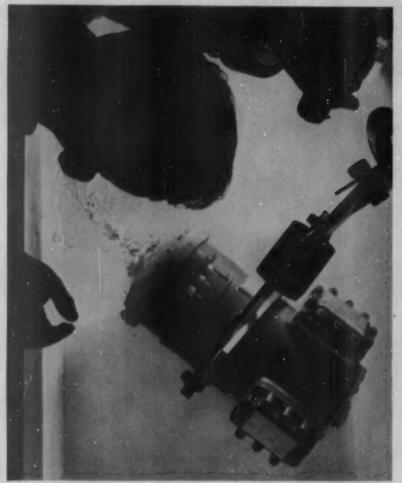
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In 1942, the Boeing Airplane Company, Wichita, Kansas, installed a Westinghouse Air Conditioning System. For the next four years, defense work required round-the-clock operation, nine months of the year. Today, 12 years later, the system still operates 16 hours a day, six months of the year.

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during the entire 12 years, on all units; four crankcase oil changes; six valve plates changed.

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To help you get your full dollar's value of air conditioning, we've prepared a 12-page Guide. It even discusses costs. To get your free copy, call your local Westinghouse Air Conditioning Distributor, He's listed in the Yellow Pages of the phone book. Or write:

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YOU CAN BE SURE ... IF IT'S Westinghouse

catcher to potential skippers shopping the market.

But the stamping technique isn't so simple as stamping out dough with a cookie cutter. The glass fibers and plastics first need preparation. The fibers are made into a mat by spreading them over a screen and holding them by a suction. The finished mat is held together by spraying it with a polyester emulsion, and heating the whole works.

After this is done, the mat is ready for the press. It is laid over the male die, and given two final coatings. About 115 lb. of plastic resin is spread manually over the mat. That is topped off with a sheet of fine mesh glass fiber, a silk-like cloth that gives the hull a smooth finish.

• Painting Eliminated—This whole sandwich is squeezed together between the dies under a pressure of 700 tons and at a temperature of up to 225F. The pressing takes 7 minutes, and turns the sandwich into one solid material. The hull that comes out has a pure white surface that never needs painting. Before shipment, it is given an inspection, and a buffing.

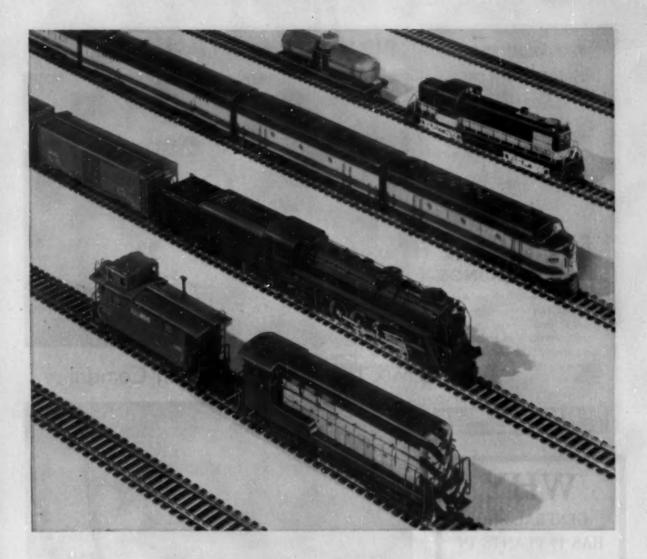
Boat manufacturers can put any kind of trim on the hulls they purchase, to suit their particular designs. But for safety's sake, Molded Fiberglass has worked out a set of minimum specifications for the trim. These include parts, such as inside and cutside wooden keels that are bolted through the plastic. Morrison says there is little advantage in designing the strength of the trim into the plastic and glass fiber.

PRODUCTION BRIEFS

A giant stretching machine for aluminum plate is a project of the Air Force and Aluminum Co. of America. The stretcher-to be installed at Alcoa's Davenport (Iowa) plant-is designed to grab a plate at each end, give it an 8,000-ton tug. Plates enlarged like that are needed for highspeed airplanes.

Compatible color video in radar systems to help control air traffic in high-density areas is an idea proposed by the Air Transport Assn. to the Air Navigation Board. With the help of video's three primary colors, a radar controller could more easily identify airplanes and their traffic lanes.

Electric locomotives are out on the Great Northern Ry.'s 73-mi. stretch in the Cascade Mountains of Washington. Company directors voted to switch to diesels by August, 1956. Salvage in electric installations and equipment, the road feels, will nearly pay for the changeover.



THE ONLY SYSTEM THAT CLEANS THEM ALL

There has long been a need in the railroad industry for an effective method of cleaning the exterior surfaces of diesel and steam locomotives, passenger coaches, and other rolling stock, regardless of contour—and yet, one which would do the job at minimum expense of labor, time, and materials. The Dearborn Pressure Cleaning System is the carefully planned answer to that demand.

It is a combined equipment-material system which incorporates a series of spray standards with water under pressure to clean all surfaces of the unit from trucks to roof. After preliminary wetting of the surface, a Dearborn acid detergent is applied by spray. This is followed shortly by a similar application of

a Dearborn alkaline detergent. Next, a spray of water under extremely high pressure rinses away the dirt and soil film previously loosened by the detergents. This spray method of cleaning reaches all the "hard-to-get-at" nooks and crannies on switchers, tank cars, cabooses, and other units of irregular contour—and cleans them thoroughly.

In addition, Dearborn has recently perfected a process for spray-cleaning coaches that eliminates streaking on exterior surfaces and windows.

Because of its performance efficiency and its lower cleaning cost per unit, the Dearborn Pressure Cleaning System is fast becoming standard with America's leading railroads. Write for information.

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THE STEELCRAFT MEG. CO.



GENERAL SHOE HAS 19 PLANTS IN

Tennessee

General Shoe Corporation operates 30 plants — and 18 of them are located in Tennessee, the corporation's home state. To astract General Shoe and other industrial leaders such as DuPont with 5 Tennessee plants, and Burlington Industries with 4 Tennessee plants, requires unusual industrial advantages.

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NEW PRODUCTS



Mix Liquid Rubber With Cement ...



... And You Get a Flexible Flooring

Take some liquid rubber, mix it with a special cement powder, and you have a bouncy, bendable flooring material that sticks to concrete, metal, or glass. It is prepared like regular concrete (pictures, above). Standard masonry equipment is used both to mix it and apply it

apply it.

The Naugatuck Chemical Div.,
United States Rubber Co., which last
week announced the coating-called
Laticrete-says that it flexes without

cracking under loads of 2,500 lb. per sq. in. and that it cuts down shock and noise. Also, says Naugatuck Chemical, the coating is waterproof, has a non-slip quality, and resists alkalies and mild acids.

According to the company, you can take a long, thin slab of the stuff and bend it by hand into a circle. The rubber content, which amounts to about 10% of the mix, gives it that flexibility and makes it feel, under

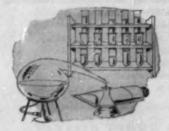
CITY & STATE



Pigments to pace progress in paints

Make no mistake about it, the paint industry has gone farther, faster, than many more dramatized industries. And at Eagle-Picher, we're pleased to be partners in the fast-paced progress of paint.

From ore to finished pigment, Eagle-Picher maintains quality control geared to the rigid specifications of paint manufacturers. As the largest manufacturer producing both zinc and lead pigments, Eagle-Picher is a natural source for unbiased counsel on formulations using either pigment. Good reason so many manufacturers look on Eagle-Picher as a full working partner in the progress of paint.



Zinc and lead pigments are among hundreds of Eagle-Picher products for homes and broadly diversified basic and growth industries.

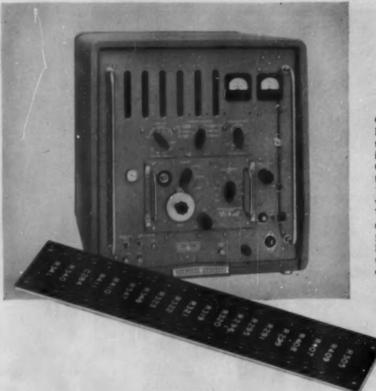
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Counting Time to One Part in Ten Million. Hewlett-Packard Model 524B Electronic Frequency Counter is used by industry to measure frequencies from 0 to 220,000,000 cycles per second, and for measuring time intervals from 1/1,000,000 of a second to 100 days... with an accuracy of 1 part in 10,000,000. Vital components are mounted on a strip of Taylor XXXP-301... the top performance hot-punch laminate that keeps excellent insulating properties under the most severe atmospheric conditions.

Here's how the instrument



Fingerprinting by Light. Complex analyses which used to take hours of laboratory work are completed in minutes with this spectrophotometer made by Beckman Instruments, Inc. The terminal board for one of its complex circuits is made from Taylor Grade LE laminated plastic . . . selected for its electrical and mechanical strength and fabricating properties.

For the Products You Make -

investigate these Taylor materials

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Process Conditions Controlled by Electronics. ElectroniK instruments, made by Minneapolis-Honeywell's Industrial Division, apply electronic principles to the measurement and automatic control of industrial temperatures, pressures, flows and many other critical process variables. Among the Taylor materials used in this instrument

are the cam for the desensitizing switch and a terminal board for the measuring circuit, made of Grade XP laminate... a readily fabricated material with good electrical and mechanical qualities. For the instrument's balancing motor, 1/64"-thick Taylor Grade XP sheet is punched into insulators for the stator case.

industry uses Taylor materials

THE PEOPLE who make modern "thinking machines" have to be particular about the materials they use. To meet today's stringent requirements for precision and dependability, each part of an instrument destined for laboratory or plant service must itself measure up accurately to its job . . . from the electrical, mechanical and economic points of view.

For many of their insulating and mechanical components, instrument makers turn to Taylor. Electrical parts in particular profit by the broad range of characteristics offered by Taylor phenol, melamine, silicone and epoxy laminates. And versatile Taylor vulcanized fibre, its unique combination of mechanical strength, insulating ability and economical cost, fills many applications as no other material can.

Men who make instruments to control quality will

appreciate the quality control that Taylor exercises in its own manufacturing. Taylor develops and compounds its own resins... manufactures its own paper... impregnates and laminates materials... all under exacting control, both in the laboratory and on the production line.

To help you select the proper grade of materials and to utilize them most advantageously in your designs, Taylor offers the service of application engineers in field offices and in the staff organization. Your production, purchasing and scheduling problems, too, can be simplified . . . and overall costs frequently reduced . . . by having Taylor fabricate finished parts to your specifications.

For a discussion of your specific problem, and for engineering data, write or call your nearest Taylor sales engineer.

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Grand Prairie, Texas
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*Talatypewriter service at both plants and these branches

Laminated Plastics Vulcanized Fibre



foot, more like hardwood than con-

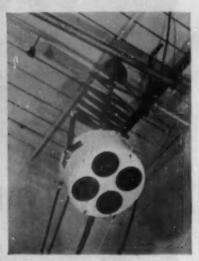
· Applications-The company says that Laticrete can be applied over worn concrete floors or on new installations. It recommends that it be applied in a quarter-inch-thick layer, and that it be given two or three days to cure. It hardens in a few hours.

Laticrete can also be used as cushioning for heavy machinery, or to protect floors or equipment that is subject to chemical attack. A number of companies testing the compound for Naugatuck Chemical in their plants have used it on ramps-to cut down skid, or in the interiors of storage tanks -as a waterproofing agent.

· Cost-The company says Laticrete costs about 55¢ per sq. ft. when installation costs are figured in. This is more than the cost of ordinary asphalt, which costs about 30¢ per sq. ft., installed, or concrete, which runs about 36¢ per sq. ft. But it is cheaper than vinyl or cubber tile-about 88¢ per sq. ft.-and considerably cheaper than acid-proof brick, which costs, installed, about \$2.50 per sq. ft. Naugatuck Chemical expects Laticrete to make a strong showing against acid-proof brick be-cause of its ability to resist acid attack. • Preparation-There is one requirement in using the compound: You must start with a clean surface. Dust or oil will prevent its bonding to the base material. Any acid on the base material must be neutralized before the surfacing material is put down. · Source: Naugatuck Chemical Div., United States Rubber Co., Naugatuck,







And "lights" are "camera," in Du Mont's ...

Reverse Twist for Color TV

The mere thought of color television throws panic into many a local TV station, because the equipment necessary for local color telecasting is so expensive. This week, Allen B. Du Mont Laboratories, Inc., said that it is ready to produce color broadcasting equipment with a relatively modest price tag.

Du Mont's new equipment (pic-tures) doesn't seem much different from any TV camera and lighting equipment. But a close look reveals that it actually is just the reverse of standard TV equipment. For example, the piece of equipment that looks like a camera (above, left), is really not the camera at all, but the light source. The equipment that looks like a set of lights (above, right) actually functions as a

With this switch-around, says Du Mont, it is able to produce color TV equipment that is within the reach of the small station. For around \$33,000, -about half the cost of today's color equipment-a small station will be able to put itself into color. Certain stations that already have some of the necessary equipment-there are 60 of them-can do it for half that.

· How It Works-With standard color equipment, you have lots of light, plus a color-sensitive camera. To get a picture into the transmitter, and out into color receivers, you bounce light off the objects in the studio, and the camera picks up that color information. The camera is set up so that it is sensitive to three colors: red, blue, and green. Electronically, it scans over the objects within its view, picks off color information and sends it to the transmitter.

The Du Mont method puts a slight twist on the conventional system. Instead of equipping a studio with a



"Can't stop nowgot a telegram for the boss"

There's something about a telegram that says "Look — this is important." From the office boy to the "Old Man", it gets priority attention right up the line.

It gets action, too.

That's why more businessmen every day are using telegrams to do more jobs more quickly . . . and at lower cost . . . on every kind of job from binding a bargain to tracing a shipment, from flashing a price quotation to reaching a hundred dealers simultaneously. Why not put

the "action-power" of telegrams to profitable use in your business more frequently?

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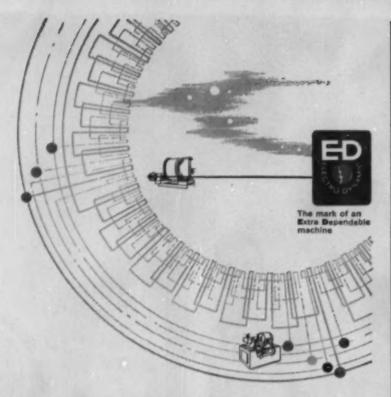
Now, You
You get 1.

WESTERN UNION

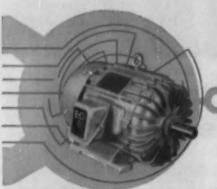
MESTERN UNION

Now, You Get More in Telegrams
You get 15 words Instead of 10

to start with in fast wires...
extra words cost only pennies.
More words in night letters, too.



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Extra starting and anti-stalling capacity: Extra cool, extra quiet operation: Achieved without sacrifice of full-load efficiency. Backed by unparalleled experience, E.D. motors are extra dependable-75 years in the making-yours today at no extra cost!



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RODUCT OF GENERAL DYNAMICS







series of lights, it uses a single light source-the unit that looks like a camera. This unit is actually a cathoderay tube. It shoots a stream of electrons onto its fluorescent face. At any instant, these electrons register on the tube face as a tiny dot of intense light. This dot of light goes through a lens, which magnifies it, and strikes a small area on the object to be televised.

To see what happens when the beam of light strikes its object, just think of the studio as completely dark. The beam of intense light strikes the object. illuminates a small area. Those four round gadgets, which look like floodlights (righthand picture, page 82), pick up the color information within the illuminated area and send it to the

The four gadgets that look like flood-lights are able to pick up that color information, because they are sensitive to different colors. Two are sensitive to red. The third is sensitive to blue, the fourth to green. The color infor-mation they send to the transmitter is identical to that which would be sent by a standard color camera.

· Light and Dark-Of course, the information that the color-sensitive tubes pick up at any instant is only a frac-tion of the total color TV picture. But the dot of light moves very fast, scans over the entire scene once every

60th of a second.

Although the room is actually dark, except for the beam of cathode-ray light, during that 60th of a second, it does not appear to be dark on the color receiver. It shows up as though it were completely illuminated because the light beam covers its field in such a short time.

To those who are in the studio, however, the light beam provides insufficient illumination. If it were the only source of light in the room, they would feel as though they were working almost in total darkness.

Du Mont gets around this by using a set of strobe lights, synchronizing them with the light from the cathoderay tube. When the cathode-ray light is scanning, the strobe lights are turned off. When it has completed its scanin a 60th of a second-the strobe lights go on, and the room is fully lighted.

In effect, the room alternates be-tween total light and total darkness throughout the telecast. But it happens so fast-a 60th of a second dark, a 60th of a second light-those in the room are not aware of the darkness.

· Other Advantages-Besides its low cost. Du Mont says the new development-called Vitascan-has a couple of other advantages: (1) It requires practically no warm-up time, and (2) one man can operate it.

But Vitascan also has limitations: The objects being televised cannot cover so broad an area as is possible with regular color equipment. The lens within the light source can be adjusted for either closeups or long shots, but the nature of the equipment makes it not so maneuverable as a standard camera.

For commercials or panel shows, where there is little moving about on stage, a single unit works satisfactorily. But for, say, a play, an extra set of equipment is necessary. Few local stations, however, put on live plays.

The second limitation is that it

The second limitation is that it must be used indoors, where light can

be controlled.

• Source: Allen B. Du Mont Laboratories, Inc., Clifton, N. J.

NEW PRODUCTS BRIEFS

Tinted tires for everybody: You can ride around on yellow sidewall auto tires; if you want to. And you don't have to buy a new set to do it (BW—Mar.19'55,p90). Bearfoot Sole Co., Wadsworth, Ohio, has introduced a portable sidewall that fits onto any tire A set-of-four costs \$12. Seven colors to choose from.

Automatic sextant: Kollsman Instrument Corp., Elmhurst, N. Y., says that it has developed the first automatic sextant in the history of aerial navigation. A photosensitive device automatically sights and tracks the sun during the day, and the stars and planets at night. The company says that the system is not thrown off by haze or moonlight.

A fire-resistant conveyor belt for coal mines has been developed by Hewitt-Robins, Inc., Stamford, Conn. It is made with neoprene synthetic rubber, will char under flames, but will not burn. Cost is about 15% higher than conventional conveyors.

TV on a budget: General Electric Co. is test-marketing a 14-in. table model television receiver that retails for just under \$100. It is the lowest priced set to be produced by GE, probably will be sold nationally in the fall.

More seats per coach: The Pullman-Standard Car Mfg. Co., Chicago, has introduced an 85-ft. rail coach that can carry 56 passengers instead of the usual 40. Every other seat is two steps above aisle level.

An office copying machine, described by Minnesota Mining & Mfg. Co. as "the world's fastest," makes dry copies of original papers in about four seconds. It operates from a standard a.e. outlet, uses a special light and special copying paper.



ROTARY OILDRAULIC® ELEVATOR needs no penthouse or heavy supports

You can save up to 25% with the elevator that's moved and controlled by smooth, dependable Oildraulic power.

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REGIONS

Court Trims City's Plans

BOSTON-The blueprints for the grand-scale Back Bay Center looked this week as though they either would be scaled down-or not used at all.

be scaled down-or not used at all.

Back of the changed picture was a ruling by the Massachusetts Superior Judicial Court. In an advisory opinion, it said flatly last week that the tax and land concessions that Roger L. Stevens and his development group have been after to get the center going are unconstitutional.

Stevens Development Corp. had laid out a \$75-million plan for the project, calling for new hotel, shopping, office, and parking space (BW-Jan.30'54,p. 66). All this was to be built on what is now the 28-acre site of the Boston & Albany RR yards in Boston's Back Bay. But Stevens took the stand that without tax concessions it would be impossible to get the capital to make the center a reality. Mayor John B. Hynes and many key businessmen agreed with him-but not the powerful downtown stores. They fought the project and, in the end, acored the victory in last week's ruling.

What the court said—in advice to the state legislature—was that it would be unconstitutional for it (1) to put a maximum assessment valuation, or ceiling, on the land; (2) to grant such a concession regardless of future improvements; (3) to permit deferment of tax payments; and (4) to freeze the assessment on the center at \$5.7-million during the five-year construction period. All these points had been packed into a bill introduced in the legislature earlier this year.

Early this week, Mayor Hynes said he would try to come up with a substitute plan to get the center started. Hynes thought he could convince the Stevens group to go ahead on the project, though perhaps on a smaller scale. But Boston itself wasn't making any bets.

TALLAHASSEE-After a two-year jam-up, Florida this week can finally see a clear road ahead for its turnpike

projects.

The biggest block was shoved aside when the state Supreme Court validated the \$74-million bond issue for the so-called "bobtail" turnpike from Miami to Fort Pierce. The 103-mile toll road had been authorized by the legislature in 1953, but court suits had kept it stalled until now.

Earlier this month, the legislature

gave its O.K. for the start of engineering and traffic studies on a statelong turnpike to cut through central Florida from Fort Pierce to Jacksonville. Spurs to Tampa Bay and Pensacola will also come under study. The Turnpike Authority has set June 1 for the start of the surveys, has predicted optimistically that the state-long road will be open to traffic by the fall of 1959.



GALVESTON—George Roy Clough may or may not turn out to be the best mayor this city has had. But he's already well on his way to becoming its best known.

Clough (picture), who has been a city employee for 20 years, took over the mayor's office last week after a campaign in which he pledged to keep Galveston "a wide open city," but wide open with a difference. Clough is for "controlled" vice, and his plans for getting it have brought him headlnes across the country—and blasts from civic and church groups that shudder at the idea of vice sanctioned.

What the 64-year-old Clough says he wants is to get "the prostitutes out of the downtown hotels and back in the district" along Postoffice Street. That, he thinks, would give the city some control and wipe out some of the reasons for protection payoffs to officials. "If you take the money from gamblers and prostitutes, you don't regulate them," Clough says. "They regulate you."

Clough has also announced that he would call a meeting within 30 days

of all the city's gambling bosses, including the syndicate chiefs "because I think they are the cleanest operators in town." His idea is to try to set up some system of self government for the gamblers, "put them on their honor," he said.

By last week, though, there were

By last week, though, there were signs that Clough might never do half of what he said. Although he denied changing his mind, he stated he planned "no action at all" right now on reopening the old red-light district. In his new go-slow attitude, residents thought they saw worries about the Army's reaction if the city sanctioned bordellos (troops are at nearby Fort Crockett). And they definitely saw reaction from Galveston's police commissioner, who said he would never move the girls back to the old district.

WOODSFIELD, OHIO—This county seat of one of the state's poorest counties had high hopes this week that its industrial famine is about to end.

News that the Pennsylvania RR had bought up 256 acres of land in nearby Clarington has the county talking of its first railroad and its first industry of any size. So far, the railroad says, it has made no commitment for development of the land. But it bought it with the idea of using it for industrial sites, and it plans to build 14 miles of new track to reach it.

Clarington lies directly across the Ohio River from New Martinsville, W. Va., where a flock of chemical plants sprang up after the war. Until now, though, Clarington—and all of Monroe County—has been able only to look, not have. With barely 8% of the county's population employed in manufacturing, its per capita income ranks as fourth lowest in the state. And because of its lack of industry, it has lost population steadily—more than 17% since 1940.

BUFFALO—With a port authority on the books, after 27 years of trying, the city is taking a more optimistic look at its future as a St. Lawrence Seaway port (BW-Mar.15'55,p.56).

Passed by the state legislature and the city council, the authority bill calls for a port body made up of Buffalo, Lackawanna, and Tonawanda, along with five suburban towns. The authority is slated to start business July 1, 1956, under eight appointees picked by Gov. Averell Harriman.

At this point, there's still some skep-

new low-cost life insurance for your

key men



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THE PACKAGING NEWSFRONT

Extraordinary savings of \$500,000 per year are reported by a major carpet manufacturer as a result of switching to Bemis waterproof laminated textile covers for shipment and storage of carpeting.

This cover material replaced wooden boxes, leading to the be-lief that manufacturers of other types of products, possibly far removed from carpeting, might make substantial savings by similar switches from various heavy or rigid containers.

Most of the carpet manufacturer's saving came in the cost of the container itself. It varied from \$8 to \$40 per unit, depending on the size of the roll.



Sealing a Remis carpet cover is fast, simple, sure. A latex adhesive is brushed through the pares of the uncoated burlap overlap.

itendline and packing represented another sizable gein, as the boxes required about twenty minutes each to assemble and pack, as compared with five minutes for the Bemis covers.

Weight is still another factor. Boxes for a nine-foot width of carpet weigh from 60 to 80 pounds, while the Bemis covers for the same rolls weigh eight pounds or less. Also, only 20 per-cent as much storage space is required for the empty con-tainers since using the textile covers.

Southern manufacturers making tufted carpeting, who previously used carrons rather than wooden boxes, have also been switching to Bernis waterproof covers. The covers cost about 40 percent less than corresponding corions. The saving in handling and packing is proportionately much greater. It takes a crew about one-fifth as long to stencil, wrap, close and seal with a Bemis cover as to set up and close a carton. A crew has been timed in 40 seconds for a complete closure.

You can answer so many needs with Bemis products...both in and out of the packaging field. If you need a package that will increase sales, give better protection to your product, or simply save you money...or if you are interested in other Bemis developments in paper, textiles or plastics...consult us. Bemis products meet an astounding number of industrial, commercial and recreational requirements, and new uses ore continually coming to light. You may want our engineers to create a new package, or to advise you on packaging methods. Please write us.

Bemis BENIS 400 B Pino Street



ticism about how much good the authority will do, and most people are waiting to see what appointments the governor makes. Meanwhile, an eco-nomic survey of Buffalo's port has come up with a \$26.9-million master plan for harbor improvements, with \$5.5million of it ticketed for spending be-fore the Seaway opens in 1959.

AUSTIN-The Texas Tumpike Authority last week set June 14 to open bids on \$58.5-million of bonds for the state's first toll road.

A 12-lane highway, the pike will cover the 30 miles between Dallas and Fort Worth. Construction is slated to get under way in late July or early August, with a completion target of July 1, 1957.

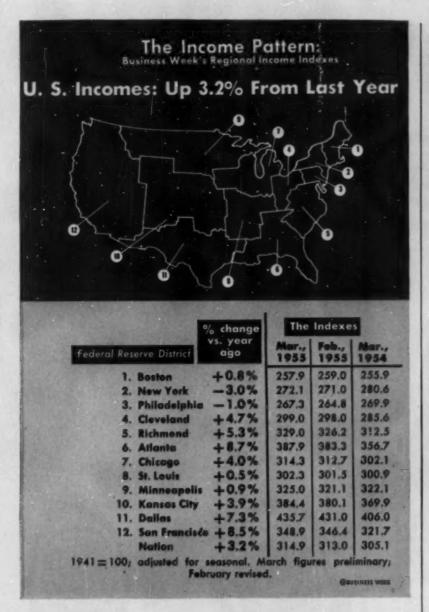
The \$58.5-million of tax-exempt bonds will be the biggest municipal issue ever made in Texas. Earlier, two private corporations issued bonds to finance other toll roads in the state. But the state Supreme Court held their bonds were taxable, and the issues are still unsold. There is now some talk of a move by the legislature to revoke the companies' priorities on the grounds of nonperformance.

TULSA-In the Dust Bowl last week it mined, and rained, and rained.

Where the earth had been bone-dry, children were making mud pies as five days of rain swept down the Arkansas and Purgatoire Rivers in southeast Colorado and down the streams all across Oklahoma. The deluge, more than any-one had bargained for, forced thousands from their homes and took six lives in Oklahoma. In Waurika, in the southwest part of the state, the raging Cow and Beaver Creeks brought the town the worst flood in its history. More than 150 families had to be evacuated, and dirt banks were piled high in front of stores to keep out the water.

For the farmers of Texas, Colorado, and Oklahoma, though, the flood brought hope-hope for an end to the drouth that has held the area in grip for five years. Harold Hutton, president of the Oklahoma Board of Agriculture, said the immediate effects would be to bring out pasture grasses and put the ground in shape for a rec-ord planting of sorghum. "These rains will keep a lot of cattlemen in business," Hutton said. He predicted that hay prices would start skidding as soon as feed crops and pastures start grow-

But at week's end, the feeling was that it would take three years for state farms to fully recover from what has been the driest siege since the 1930s.



Still Chalking Up Records

Incomes are keeping step with the upswing in industrial production, BUSINESS WEEK'S Composite of Regional Income Indexes shows. In March, incomes climbed 3.2% over March, 1954—the fifth consecutive month to show up favorably compared with the corresponding months last year.

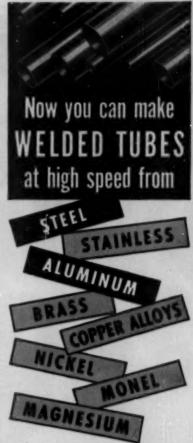
As far as the individual regions are concerned, the year-to-year comparison shows only two income declines in March—in New York and Philadelphia.

Employment in Pennsylvania and Delaware was still below a year ago, but that the gap is narrowing. The largest increase was chalked up in Atlanta, where incomes stood 8.7% over

a year ago. San Francisco followed, with 8.5% gain.

From February to March, incomes increased 0.6%. Only the Boston region failed to share the wealth. Gains generally were modest, ranging from 0.3% to 1.2%—but were widespread, not concentrated in a few regions.

First-quarter incomes in five regions fell below the 1.0% gain in the national average. Three Mid-Western regions (St. Louis, Chicago, and Minneapolis) gained more than the U.S. average. Greatest gains were posted in the West and Southwest (Dallas, Atlanta, Kansas City, and San Francisco)



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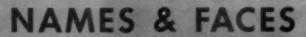
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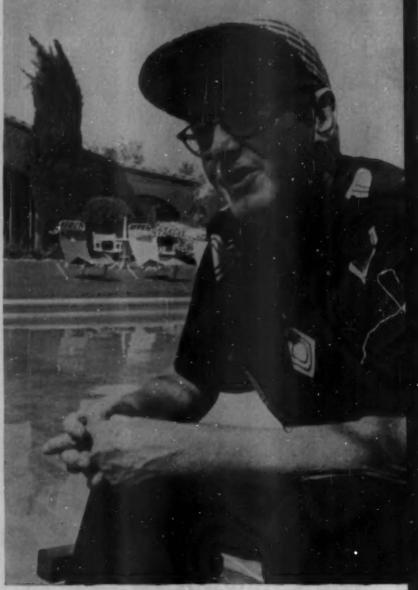












Financier Floyd Odlum, apparent possessor of the golden touch, is a man who knows how to mix work and relaxation until you can hardly tell where one begins and the other ends. From the pool, the lawn, and the garden tables of his Indio (Calif.) ranch home, he runs the wide-flung operations of Atlas Corp., always keeps . . .

On the Trail of a





LIKE A CLASS of students, French Air Force brass (foreground), and two of his friends hear Odlum's views on nuclear power plants.



FROM THE POOLSIDE telephone, Odlum makes and takes calls, lazing in the water-but keeping firm grip on his enterprises.



AT UMBRELLA-SHADED TABLE, Odlum quizzes and briefs Atlas man James Allen, who represents him on board of Northrop Aircraft Inc.

"Special Situation"

(Story starts on page 92)



Odlum On the Move

(Story starts on page 90)

Around the rough canyon-cut Colorado Plateau, where the click of a Geiger counter may lead you to your fortune, there's been plenty of talk about new-made millionaires like Charlie Steen and Vernon Pick, who found their fortunes after rugged months prospecting.

But when it comes down to turning uranium discoveries into industries there's another name that's become a major force in the western mining

states.

It's the name of Floyd Bostwick Odlum, president of Atlas Corp., master of the special situation.

In uranium's transition from prospecting to production, Odlum and Atlas have found a very special situation. And, in less than a year, Odlum has sewn up for Atlas what may turn out to be the best of the proven production ventures in the West.

The speed with which Odlum and Atlas have leapt into uranium—and the energy Odlum himself is putting into the new field—are surprising even to those familiar with his record of dazzl-

ing deals.

• Growing Market—Odlum has backed up his claim-buying with appearances at the Western Mining Congress, and at press conferences around the country where he's been driving home his belief that the commercial market for uranium is constantly getting bigger and bigger.

And, in addition to leading Atlas into its ever-growing stake in uranium, Odlum has taken a substantial flyer on

nis own.

The money for Atlas' uranium play has come from the profitable sale of Consolidated-Vultee Aircraft Corp. in 1953 (BW-Apr.4'53,p34). By August, 1953, after that sale and a few smaller deals, Atlas had a chunk of cash totaling \$20-million that was lying around waiting for an attractive investment opportunity. But then, Odlum said Atlas was staying liquid for a time because there just didn't seem to be anything around to challenge its talents.

For almost a year—until June, 1954—owners of unproved uranium claims on the Colorado Plateau lined up at the door of Odlum's ranch at Indio, Calif., offering to sell their claims to Atlas. Atlas wouldn't take them. It couldn't move into uranium until Odlum felt there was some clear indication that it wouldn't be putting its money into a bottomless pit. Then, suddenly, last June, Odlum began putting Atlas into uranium in a big way.

· Highest Stake-Odlum and Atlas are

pretty well synonomous. His personal stake in the company is \$8-million. Of some 1.6-million outstanding shares, he owns 90,000 shares, plus 200,000 shares of option warrants. Only 1% of other stockholders own as much as 1,000 shares each.

These are some of the uranium deals Odlum has turned, or is turning, for

Atlas:

Outright ownership, for \$10-million, of prospector Vernon Pick's Hidden Splendor Mining Co. This is Atlas' largest single holding in uranium, and geologists from Atlas have boosted estimates of the mine's total indicated ore from 300,000 tons to 600,000 tons since Pick sold it.

• Through Wasatch Corp. (95.5% owned by Atlas), a controlling slice of Lisbon Uranium Corp. This, Odlum says, may turn out to be Atlas' richest uranium interest. Its claims, many of which have been added since Atlas took charge, lie in San Juan County, Utah, between the famous Steen mine and the operating properties of Homestake Mining Co.

• With a partner, yet unnamed, an option to buy a half interest in Northern Australia Uranium Corp. This company has a 700-square-mile concession near the already-producing uranium mines at Rum Jungle, near Darwin. When Odlum's interest was announced, the company's stock jumped almost 70%.

With another partner, Argentine financier Jorge Antonio, a bid for the uranium and oil rights in a large part of oil-rich Neuquen area of Argen-

tina.

 A substantial chunk in Pronto Uranium Mines, Ltd., in Canada; and in Standard Uranium Corp., which adjoins Lisbon Corp.'s holdings on the Colorado Plateau.

 And, says Odlum, "We are in general conversation about uranium properties in several other parts of the

world."

On his own, Odlum has a big stake in the newly-formed Federal Uranium Corp. of Nevada. He emphasizes that this deal is strictly on his own. That's the situation right now, anyway. But there seems to be nothing to prevent Odlum from throwing all the uranium interests into one pot if he has a mind to.

• Pleased With the Deals—When you talk with Odlum it's clear that he's enjoying his play in uranium better than anything in Atlas Corp.'s 25-year history. He says he has spent half his time during the past winter on uranium

HOW GORTON'S CUT PACKAGING COSTS

... GOT HIGHER OUTPUT IN LIMITED SPACE.



This operation has been set up to use minimum space for its 90-package-a-minute average production. Cartons formed in the right foreground are filled on the packing table (background), and pass quality control inspection (foreground) prior to being automatically closed and wrapped (left).

Pre-cooked fish stick packaging at Gorton's Gloucester plant is an excellent example of what careful planning can do to boost output and lower costs. Space was a problem here from the start. Yet in this limited area, the use of automatic high-speed packaging machinery makes possible the average production rate of 90 neat, attractive Gorton's packages a minute.

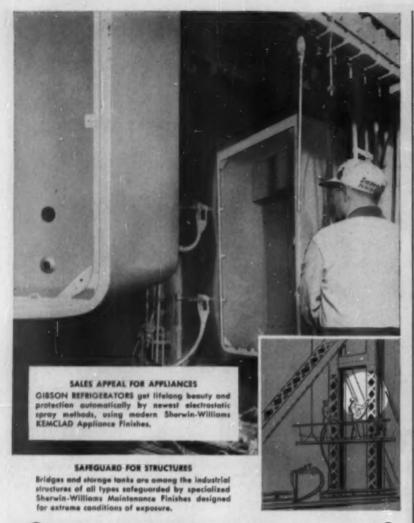
A Tray-Lock machine forms cartons automatically, delivers them right-side-up to the filling table. Low-cost, die-cut blanks feed in from a magazine; no attendant is needed. After cartons are filled and inspected, a PC Closer tucks and closes top automatically as they pass to the wrapper. Here the versatile Model FF Wrapper gives tight, attractive wraps at any speed. Only one operator is needed. Special features—like paper feed stopping automatically when no package is fed—mean trouble-free operation and the day-to-day efficiency that helps keep output up and costs down.

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projects. His friends are betting he will soon be shopping around for a heat reactor to run the uranium mill that he probably will build on the Colorado Plateau.

I. Philosophy for Profit

To uranium, Odlum has brought more than just his financial wizardry.

Probably the most important thing is his philosophy of the "special situation." The basis of the special situation is always a company that needs help, and to which help can be given advantageously. This stems out of Odlum's belief that: (1) In the long run, investment profits come more from a company's underlying value than from the stock market value of its shares, and (2) capital and good management can generally develop the potential of a basically sound company, no matter how depressed it may be.

• \$10-Million Example—Odlum's Consolidated Vultee Aircraft Corp. deal of 1947 was an example of how Atlas plays doctor. Convair was foundering through lack of financing and strong direction, and because of traditional fears and problems that beset the air-

craft industry.

The company had metal cut for commercial airplanes, but it wasn't assembling them because it didn't have signed orders from the airlines. Odlum's way of getting around this block was to set up Airflects Inc., which was to lease planes to the airlines if the airlines decided they did not want to make outright purchases. And he urged Convair's engineering staff to "get way out in front" with its military designs.

And then, commercial business brightened. So Airfleets was spun off and distributed as a stock dividend, and, next year, Odlum set up San Diego Corp. as another stock dividend. Today, whenever anything good turns up in oil or mining, Airfleets, San Diego Corp., and Wasatch Corp. form a consortium and move in together.

Odlum sold Convair at the top of the market—a few days before the Korean peace talks began. He doubled the \$10-million that Atlas put in, but stockholders agreed he had earned his capital gains. So did Odlum.

• Rules of the Game-Odlum's theory of how to play a special situation, once you've found one, seems to boil down to this:

 You make the investment with fixed goals in mind.

You take over actual management of the company.

 You stay in until your goals have been reached.

 And when you do move out, you leave enough in the company for the next man to make a profit.

In uranium, Odlum believes he has

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8-11

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found for Atlas a very special situation. But he does not believe the special situation was there until U.S. uranium production began calling for serious mining rather than surface scratching. The small companies, most of them capitalized at around \$300,000, couldn't handle the expensive job of serious mining.

These factors made the basis of the special situation in uranium. The rest of it is built on Odlum's estimate that nuclear power plants for industry will be turning out 10-million kilowatts by 1965, and 40-million kilowatts by 1975; and that by 1975, 17-million tons of uranium ore will have to be mined just to provide fuel for nuclear power plants. • Down to Business-Atlas and Odlum have been scurrying along since the move into uranium. At the Hidden Splendor mine, Atlas geologists have drilled 850 feet below the surface and turned up 600,000 tons of indicated ore. Federal Uranium Corp. of Nevada will decide, in 30 days, whether it will build a uranium mill to reduce the ore to oxide. It's possible that Federal will. build one, and Atlas' Hidden Splendor another. Here again, the decision may rest on whether Odlum wants to put all

his uranium eggs in one basket.

Odlum hasn't been content to run his uranium projects entirely from the New York headquarters of Atlas Corp. or from his own ranch home at Indio. He has spent a lot of time "on location." Around the rough Utah and Colorado hills, he has smoothed out many conflicting claims, made trades,

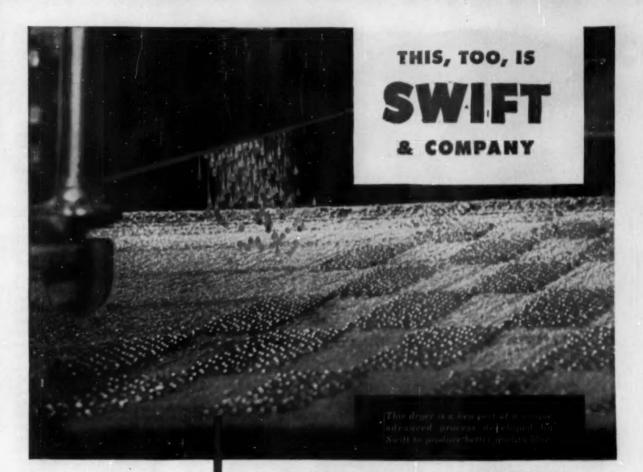
got different groups together.
• Eying Foreign Ore-Besides commuting back and forth from Indio, to Utah, to New York, Odlum has been spending time on foreign ventures.

The option Atlas holds to buy half the outstanding shares of Northern Australia Uranium Corp. for \$700,000 is practically a purchase-it's subject only to a check by Atlas geologists and

Odlum is caught up, too, in attempting an entry into Argentina for Atlas. He has been trying for a year to swing a deal with the Argentine government that would give Atlas oil and uranium rights in the Neuquen area. As planned now, the deal would be made with Jorge Antonio, Argentine financier and an intimate of Juan Peron, as

But the deal has not come through, and although an Atlas Corp. staff, maintained for several months in Buenos Aires, has moved back to New York, it's not thought to be a sign that the deal has collapsed.

There's Spain, too, though Odlum isn't sure yet what his operations there will lead to. For three years he has been working with rainmaker Irving Krick (BW-Aug.5'50,p28), contract-



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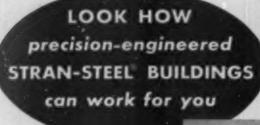
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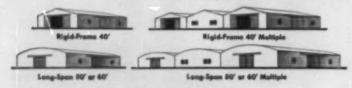
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ing with Spanish power companies. His wife, Jacqueline Cochran, famous aviatrix, has the contract to release Walt Disney pictures in Spain.

II. System for Living

You might think that all this wheeling and dealing would wear the man out. But Odlum has a way of relaxing while he works and working while he relaxes. It's hard to tell where one ends and the other begins. He has an office at his Indio ranch, and Atlas, in New York, occupies three floors near the top of 33 Pine Street.

But Odlum has little use for offices. In New York, he's more often to be found in a large sunny apartment at River House, where groups are lounging in every room, talking deals. Sofas, beds, and kitchen chairs take the place of deals and hoved tables.

of desks and board tables.

At Indio, Odlum shuns his office, conducts most of his business in canvas garden chairs at umbrella-shaded tables on the sunny lawn of his 1,000-acre citrus and date ranch. After an hour or so of business, he's likely to jump up and say: "Come on fellows. Let's go for a swim." And while Odlum soaks out his arthritis in the heated pool, he'll continue his conversation. His ranch is no different from any of

His ranch is no different from any of his other ventures. He bought 50 acres of empty desert 18 years ago, and today it has expanded into 1,000 acres, with citrus, date palms, lawns, and flower-

beds.

• The Golden Touch—It all seems to be part of Odlum's golden touch, which he has been exercising since 1923. It was then that he and George H. Howard, then a lawyer at the Wall Street firm of Simpson, Thatcher & Bartlett started investing in the market. They set up their firm with \$40,000, withdrew from the market just before the crash with \$16.6-million.

Atlas Corp. was formed in 1936, and through the difficult years from 1937 to 1942, its asset value decreased about \$11 a share from its previous peak of \$19. But since 1946, the course of Atlas has been steadily upward. By the end of 1954, its asset value stood at \$43.77 a share, and, this week, was quoted around 46 on the New York Stock Exchange.

Wherever people gather today to talk about uranium, foreign opportunties, or other investments, Odlumname is magic. It's not surprising, since Atlas now is one of the world's major investment companies, with assets of

\$80-million.

And as Odlum and Atlas swing into the uranium field, there's a feeling among some financiers that Odlum's past activities might pale before his future in uranium. At 63, he may have his best years ahead of him. The new Australian refinery primarily consists of crude oil distillation, catalytic cracking, decarbonizing and polymeriza-tion units with deep marine, storage, and other yard facilities. The Power Plant is shown here under construction.



At Botany Bay, near Sydney, Australia, Kurnell

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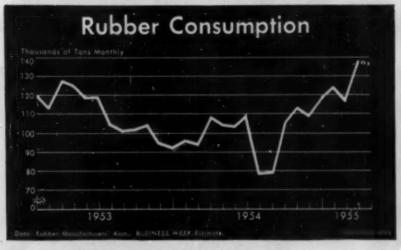




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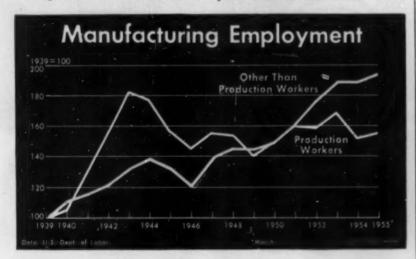
Climbing to New Records

Increased activity in many industries is bouncing rubber consumption to new heights. In March, rubber consumption reached an all-time high. And April consumption is expected to stay up on the same high level.

A big factor in demand for rubber is

record tire production, which has been accelerated by unprecedented auto production and replacement tire demand exceeding all expectations.

Judging by the present rate, rubber consumption this year should equal or push ahead of the 1952 record.



Production Men Lag Behind

Since 1939 the number of nonproduction workers in manufacturing industry has shown an almost steady year-by-year increase. But the ranks of production workers have not grown larger by comparable amounts.

Dept. of Labor classes as nonproduction workers those engaged in these activities: executive, purchasing, advertising, selling, delivering, accounting, stenography, and scientific and economic research. Production workers are defined as all nonsupervisory workers through the working foreman level.

This breakdown underlines the fact that production worker employment is far more sensitive to changes in business volume than nonproduction employment. A slight recession will shrink the size of the production force, but is less likely to affect the clerical and executive groups.

Two other factors are at work shaping the long-term picture. One of them is the trend toward automation—which has not altered the need for clerical personnel to any great extent so far. The second is increased productivity.



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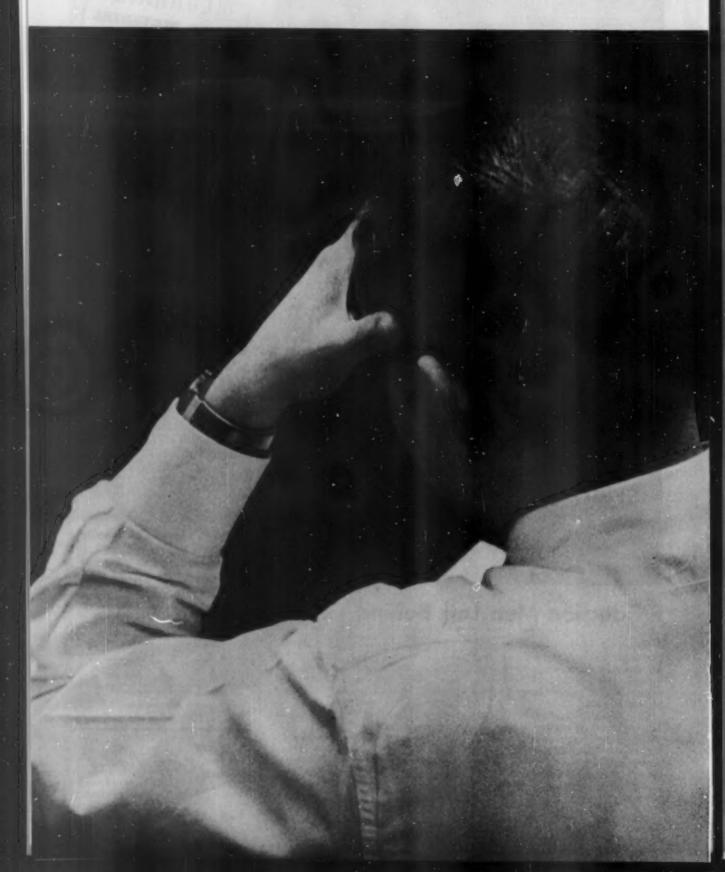
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Send for Bulletin 43-D describing Standard's gravity and power conveyor units. Address Dept. BW-55.





A SPECIAL



REPORT TO BUSINESS WEEK READERS ON:



The New World of Research

- The word research is old, but as a force in the world, research is very new
- To business, research is the prime new force

 a force that has produced a different and
 puzzling breed of men, the researchers
- To the world, research is a mighty creator of innovation—a force that is only half-understood, but is changing our world before our eyes
- In this report, BUSINESS WEEK attempts to describe this new force in business and the world—and to outline the unknowns in which its goals lie
- Start with young men like the one at left, for .

Centinued on next page



CARBON-INTERLEAVED BILLS OF LABING INVOICE SETS

STATEMENT SETS

T VOUCHER CHECKS

REQUEST FOR QUOTATION

PURCHASE ORDER SETS

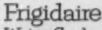
SALES ORDER SETS

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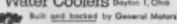


For Customers who get Thirsty

Customers like the special "lift" in a clean, cool drink of water. And for shops and stores there are special Flash-O-Matic Water Coolers in Frigidaire's complete line.



Water Coolers Dayson 1, Ohio





..... they are the men who hold the future in their hands

The New World of Research

A quietly dressed man of about 35, with serious eyes and crew cut hair, drives through a neatly landscaped park to a cluster of new brick buildings on the outskirts of town. There's ample room for his 1955 Buick in the cemented parking lot. He shows an identification button to a uniformed guard at the gatehouse, and disappears into a crowd of other young men. Trying to catch up with him indoors, you pass a digital computer, an electron microscope, and perhaps \$1-million in out-of-this-world equipment.

This young man is going places. From the way he carries himself, you know he's well paid, confident, aware of his place in the sun. Visiting firemen would pigeonhole him as middle management, slated for the top. Actually, he's a member of the research team, an industrial scientist, probably a Ph.D. in physics or chemistry.

He's not typical of the 200,000 or so professional scientists and engineers who this year will spend on the order of \$4.2-billion for research and development. But he's the man who is changing science and research in this country. Your future is in his hands.

• Transformation-Fifteen years ago

you might have seen his counterpart on a college campus, where he was probably teaching 15 hours a week. His air was far less confident, he was much in need of a haircut, and if you looked closely, chances are you could spot a neatly darned elbow in his tweed jacket. Ten years ago you might have seen him entering a Quonset hut inside the patrolled fences of a supersecret defense project. At that time, he seemed a little more sure of himself, considerably better dressed, and his hair was closely shorn. The crewcut hair became the trade mark of the young scientist in the early, Alice-in-Wonderland days of atomic energy.

But the really significant changes have come since the war. The young scientist has left the university campus and the government crash program to take a prominent place in industry. Why and how industry puts up with him is an enigma. For nine times out of 10, management doesn't understand him. Even more frequently he doesn't understand management.

· Success Story-You hear a dozen or so important-sounding reasons for this postwar shift. Natural resources are being consumed at a rapid clip, and



90% of nation's eggs shipped in CORRUGATED boxes-safer, cheaper, and 6 lb. lighter

Few things are as fragile as eggs-or as protective as corrugated boxes. The two just go naturally together, and do in fact at almost every major egg pack-

ing plant in America.

Eggs joined the trend toward corrugated boxes several years ago primarily as an economy move. Corrugated boxes cost less than half as much as those formerly used, and weigh 6 lb. lessimportant factors in any close-haul price battle. What's more, experience shows they protect better because the bottoms are more secure, the sides are stronger yet softer, and the slitfree construction keeps out moisture and dirt.

Corrugated boxes speed up packing, handling and unpacking wherever they're used. They're easier to open and close. They slide smoothly without scratching hands, clothing, counters or trucks-something that just about everybody appreciates. Taking a tip from other users of corrugated boxes, egg packers today are adding colorful brand labeling to their boxes, benefiting directly from point-of-sale advertising that costs almost nothing.

If corrugated can carry eggs safely, it can be used for practically any fragile product-heavy or light, large or small. When you need shipping containers, think first of corrugated. Your nearby boxmaker is listed in the classified directory under "Boxes-corrugated."

Langston doesn't sell corrugated; only the machines that make it. Since 1902, these machines have led the field in efficiency and dependability. Samuel M. Langston Co., Camden 4, N.J.

THINK FIRST OF CORRUGATED



Corrugated Container Machinery



"... industrial research has been so successful that it has reached the fad stage in many companies ..."

SPECIAL REPORT starts on p. 104

this puts more emphasis on technological improvement to get more out of what we have left, cut down waste, find uses for the waste that's unavoidable. Many of these reasons focus on increasing competition in war and in trade as the central issue.

During World War II, scientists showed industry what they could do if they had the money and the facilities. After the war industry lured as many of these bright young men as it could into the factory. Cost was no problem. Industry wanted results and

it wanted them fast.

Quite clearly research has provided much of what industry wanted. Look at the record. Research has been prodigiously successful in turning out new products, improving old ones, and helping companies to diversify. Company after company reports that 50%, 75% of its current sales come from products that didn't exist 15 years ago. Research has been the answer to stepped up competition—very often in spite of itself. Technology has filtered into every aspect of business with electronic computers in the front office, infrared rays in the factory.

Industrial research has been so successful that it has reached the fad stage in many companies. Management is eating out of the researcher's hand, and industry is practically in awe of his accomplishments. Today, research is the "thing to have"—as in other times cost accounting, time and motion studies, economists were "the things to have" to answer the compe-

tition

• Momentum—The tax structure has made research easy to get. High corporate tax rates mean in most cases that more than half of what a company spends on research would otherwise go to the government. In the excess profits tax years, a company might be spending only 18¢ of its own money for every dollar of research.

Stockholders, fascinated by the spread of technology, are easily convinced that research is their best possible investment. The result is a rash of modernistic laboratories in the suburbs of dozens of cities. A showy lab, management will tell you, is also good

public relations.

The laboratory's suburban location and expensive equipment, the scientist's new car and well-cut clothes are hallmarks of success. Success also accounts for another physical change. Research in industry has snowballed, and growth always tends to reduce age levels. The bulk of the people you

meet in laboratories today are under 35. But this, too, is a surface change. It doesn't explain the mental climate that produced Research with a capital R.

I. Climate of Science

Consider for a moment the shaggy haired ex-college professor who used to work alone in a remote corner of the plant with filched materials and probably his own microscope. "Security" then meant merely "Safety"—or else something bought on the stock market.

Our young man of today is as different in attitude and approach from that 1940 vintage as a needle-nosed jet fighter from a fabric-covered biplane. The metamorphosis clearly involves more than a change in magnitude.

Sit down with the young man we followed into the laboratory and talk to him. He's articulate, incisive, well informed about national government, foreign affairs, the local theater season, golf. Look at his office. It's an antiseptic cubicle with a modular desk and only a few reminders of the past.

only a few reminders of the past.

• Man of Many Worlds—There's a blackboard on one wall, covered with the quickly scribbled Greek letters of an elaborate equation. This ties him still to the university and the academic life. The identification button on his lapel is a constant reminder of continuing governmental interest and support. An in-and-out basket is the contribution of industry. But one of the first things the young man will tell you is that the basket has to go. To him its that the basket has to go. To him its that the painful symbol of horse-and-buggy communications.

• Different Scales—For all of his obvious financial success, the young man is not happy. He's got a chip on his shoulder. If you mention practical management considerations such as costs or target dates, he looks at you with a little pity and much disdain. He begins by defining research as pushing back the frontiers of the unknown. Practical application of the knowledge picked up in this exploration is incidental and often below his dignity. He's concentrating on a vision of the future.

If there's a key to the many dissensions between research and management today, it's this: Management, brought up through the ranks of sales and production, does not act and think on the same time scale as research. The immediacy of management's need for a new gimmick to meet the competition of the moment is inconceivable to a man who has seen a vision of space



Plenty! That is, if the material you handle, like chow mein, will go through a pipe. If it will, the amazing Moyno Pump may be just what you are looking for!

This pump is different, without being a prima donna. It is new, yet thoroughly service-proved for liquids, pastes, solids in suspension, abrasive-laden slurries, and a long list of other applications.

Perhaps, like the chow mein producer, you need to handle materials smoothly, without squeezing. The answer is progressing cavities-found only in the Moyno. Or, your problem might be solved by another of the unique Moyno characteristics shown at

If your materials moving costs seem high—if you have a pumping problem-or if you are wondering whether the Moyno is adaptable to your product, write us today! Ask for a free copy of Bulletin 30-BW.

About the chow mein application: ladling proved to be too slow and expensive. Ordinary pumps made soup out of the celery. Moynos work per-fectly; cost 1/2 less!



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Positive Displacement — Moynos are available to pull up to a 20° vacuum while discharging under pressure. Big Moynos deliver up to 250 g.p.m. Pressures to 600 p.s.i. obtainable.

Gestle—no churning; won't break up semi-solids...won't aerate liquids. Reversible—pumps with equal efficiency in either direction.

Treeble-Free-ealf priming; won't cavitate or vapor-lock. Just one moving part—no valves to stick, no platons to gum up. Built for tough service. Easy to maintain.

Versatile—adaptable to washers, drink dispensers, gasoline pumps, oil burn-ers, etc.—or can be custom-designed to meet your requirements.











You Couldn't Do Your Job Without Trucks, Mr. Businessman . . . And Neither Could Your Wife!



THE MILKMAN COMETH. Through thick or thin, he's always faithful, and you can give top credit to his dependable mechanical horse.



THE CORNER SERVICE STATION'S CER-TAINLY HANDY. Ever think how all these stations would get their gasoline if it weren't for trucks?



AND NOW FOR A LITTLE SHOPPING! Imagine a beautiful set-up like this right out in the country! Before we had trucks this sort of thing was undreamed of!



OH, OH! THE NEW DAVENPORT HAS ARRIVED. DIDN'T EXPECT IT SO SOON. Trucks speed up things all along the line. Our lives would slow to a walk without them.



"COME BOBBIE. IT'S TIME TO PICK UP DADDY!" Daddy's plant used to be'way down in the city. But now be's right out in the country—not far from home. Trucks made it possible!



"SORRY I WAS A BIT LATE, DEAR, HAD A FLAT TIRE. FOR A MINUTE I THOUGHT I'D NEVER MAKE IT, BUT A TRUCK DRIVER STOPPED AND CHANGED IT FOR ME!"

They'll do it every time!



American Trucking Industry

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IF YOU'VE GOT IT . . . A TRUCK BROUGHT IT!

"... I ask for a 'yes or no' answer and I get back a 40page report . . "

SPECIAL REPORT starts on p. 104

travel, computer-operated factories, health based on perfect balance of life processes. In his brave new world, the current product with all its gimmicks has no place at all. Someone who has done basic research on the transistor, for example, finds great difficulty in working up enthusiasm for an improved vacuum tube.

Management and research are consequently often talking on different levels. You notice it in personality clashes, communications difficulties, organizational problems. One company president summed up the symptoms this way: "I ask for a 'yes or no' answer, and I get back a 40-page report."

• Reluctant Marriage—The fact to recognize in any appraisal of the new research in industry is that you're dealing with different motivations. Both have advantages and both have drawbacks. Management has clearly come to rely on research as a competitive weapon. In our highly technical world, progress is becoming more and more dependent on highly specialized research, more often than not long-range or pure research.

The scientist, on the other hand, is being forced toward industry. With the impedimenta of research skyrocketing in cost, he's having to turn more and more frequently to industry or the government for funds. Universities are no longer the solace they once were. Financially, they're on the rocks. Deans are out beating the bushes for research contracts to keep the labs open. In many large universities, 85% of the funds for research are provided by government contract.

• Alternatives—Among "pure" researchers, the people with long-range ideas, the alternative of greatly expanded governmental research is not appealing. The Oppenheimer security risk case, the Astin fracas over battery acids, the Condon investigations are viewed as handwriting on the wall. The idea of justifying the search for truth to a head-line-happy Congressional committee is repulsive. Even if taxpayers would go along with socialized science—which these long-range thinkers doubt—the researchers themselves would balk.

This then is the dilemma:

 Universities can't afford the atom smashers and other elaborate modern equipment—the tools the scientists need—without governmental or industrial support.

Government work may—and on occasion probably has—put blinkers on



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". . . there are almost as many interpretations of the term 'research' as there are people . . ."

SPECIAL REPORT starts on p. 104

intellectual freedom; it makes everything subject to review and re-review on political grounds.

 Industry, as a matter of down-toearth necessity, is often so concerned with the competition of the moment that it cannot understand and frequently ignores the vision of research.

II. Where We Are Now

Finding a way out of this dilemma means, for both scientists and laymen, learning to understand what the other wants and what each can provide. This in turn means coming to some agreement on terms, so that individual research projects can be viewed in the perspective of research as a whole and as a segment of the national economy.

• Definitions—At the moment, there are almost as many interpretations of the term "research" as there are people who can pronounce the word. To the man in the street, research is practically synonymous with progress. It means such things as more and better food, clothing, housing, health. It means longer life, more leisure, security—all with less physical effort.

The pure scientist sees it from another angle—from the standpoint of exploring the unknown. He's looking for information—not to solve any particular problem of the moment, but for the sake of knowing.

New products and processes, the tangible aspects of progress and a higher standard of living, very clearly derive from discoveries of the pure scientist. But there's a wide middle ground between pure research and the creation of new products, and it's this middle ground that is constantly under fire. Out of this area, various observers have carved segments known as basic research, fundamental research, applied research, process development, and product development.

• Meeting of Opposites—Prior to World War II, colleges and universities were concerned almost solely with pure research. Industry was concerned almost entirely with development, and with a few preliminaries leading to a prototype—what was known as applied research. But the war threw these neat pigeonholings out the window.

Early in the war, colleges accepted a few applied research and development contracts from the government to keep their scientific staffs intact, and to bolster their sagging endowment funds. The trend picked up after the war and has stayed up. It's likely that more college researchers are now working on

development than on pure research.

At the same time, industry-particularly the big chemical, rubber, electrical, and aviation companies—began to get into pure research because development of new products had accelerated to the point where production was pushing against the frontiers of knowledge. With transistors, guided missiles, and atomic energy, industrial researchers are looking for new fundamental principles; this takes them into the area that the college scientist considers his realm. The only difference is that the industrial or government researcher has a commercial motive.

• But Not Understanding—Aside from motivation, there's very little difference today between the physicist at Bell Telephone Laboratories or Radio Corp. of America and the physicist at Massachusetts Institute of Technology or the University of Chicago. Classifications are indistinct—but misunderstandings are getting worse.

College researchers continue to think of all industrial research as auto styling or as the process of standing on a street corner counting passersby to check on the location of a new retail outlet. Industry on the other hand, continues to think of college research as an elderly professor classifying tropical flies.

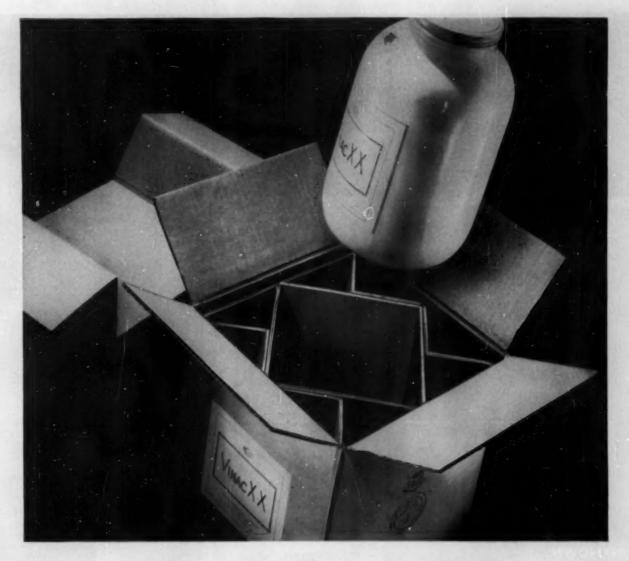
professor classifying tropical flies.

Some people, who have seen both sides of the fence, are beginning to take a philosophical view. Money is much more readily available for applied research than for pure research. So many scientists frequently tell you it's much simpler to go ahead and do the work, calling it applied, than it is to explain to the man guarding the funds that the additional equipment or personnel are really for pure research, the results of which can't be imagined.

How We Got Here

In an age that talks of atom bombs, scientific feeding, and interplanetary travel, it's difficult to fit current research into the perspective of history. Science and technology now play so prominent a role in everyday life that it seems inconceivable that only 400 years ago people shied away from Galileo, and considered him a practitioner of black art.

Some scholars who have been trying to put science in the perspective of history have recently come up with an interesting analysis and prediction, which focuses on the confident young man with the close-cropped hair. These scholars see current research as taking us into a third phase of the industrial



New way to mail a glass bottle

The old way — the one Gair and the Colton Chemical Company of Cleveland (a division of Air Reduction Co., Inc.) have now streamlined — was messy and costly.

It involved an oversized shipping container, with hard-to-handle sawdust taking up the excess space. Finally tired of scattering profits along the sawdust trail, Colton took time to listen to the man from Gair. Now they're glad.

Their new Gair corrugated container eliminates

the sawdust completely, along with the expense of buying, storing, moving, and cleaning it up. Packaging costs are down to a minimum and breakage (low before) has disappeared.

The trick, of course, is Gair's structural design of the container — using two creased corrugated sheets to handle *all* shocks. The trick in getting more protection for your product? To get the answer, call *your* nearest Gair container plant. One of our men will be glad to talk to your shipping people. sc.s.5

YOU'RE LIVING NEXT DOOR TO THE EXPERT

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UNKNOWN: What is the nature of matter and energy?

UNKNOWN: What is the nature of life?

LIG

ENERGY CONVERSION

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UNKNOWN

Where did the universe come from and where is it going? ATOMIC ENERGY

COSMIC RAS

POLLUTION

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WEATHER

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CANCER

ASTRONOMY

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BIOLOGY

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THEORY

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SOCIOLOGY

MATHEMATICS

ECONOMICS:

AUTO NATION

QUANTUM

HUMANITIES

PSYCHOLOGY

COMMUNICATIONS

LEISURE

MOTIVATIONS.

MENTAL DISEASE

UNKNOWN

Why do civilizations differ from one another?

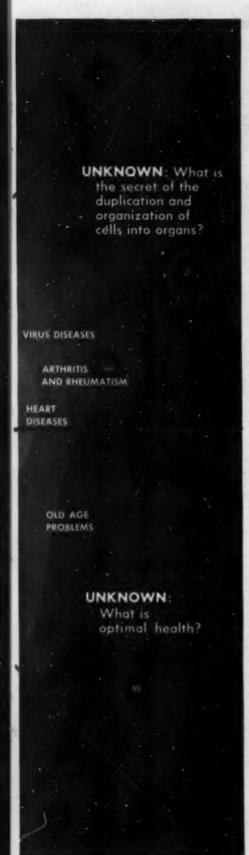
UNKNOWN:

Why do people behave as they do?

UNKNOWN:
What are the

fundamental

laws of nature?



This is a picture of the universe in which research operates. Scientists start from the base of what is known-represented as the white area, center. They are working in an area of the partly known—the gray area in which they may have glimpses of knowledge or perhaps no more than a working hypothesis. Ahead of them is the unknown—a black area that contains most of the basic questions (such as what is the nature of matter or of life) toward which thinking men have been working for generations.

revolution. Here's how they describe the shifts:

• Invention. Man had been inventive since the beginning of time, but not until he had collected a great deal of information about nature and perfected his processes of reasoning did he become "scientific." When inventors began to use the scientific method in the 18th Century, the result was an industrial revolution. Large-scale mechanical manufacturing, which started in Britain, spread technology around the world. In this country, whole new industries sprang up from the "scientific" inventions of such men as Eli Whitney, Robert Fulton, Elias Howe, Samuel F. B. Morse, Cyrus McCormick, Alexander Graham Bell, Charles Goodyear, John Wesley Hyatt, Thomas A. Edison, Charles M. Hall.

· Organization. In Germany toward the end of the 19th Century, a second phase began. With a push from the Kaiser in the form of Institutes, German science was encouraged to correct and enrich industrial processes. This was the beginning of organized research. The American effort of phase II was slow in starting, because natural resources here were so plentiful that the idea of conservation or technological development of new ones seemed to be waste effort. Begin it did, however, in the laboratories of Arthur D. Little (1886), Eastman Kodak (1893), B. F. Goodrich (1895), General Electric Co. (1900), National Bureau of Standards (1901), E. I. du Pont de Nemours & Co. (1902). By 1920 the total was only 220. But during the 1920s and 1930s, we outstripped all competitors in the organized application of science to manufacturing, and began to add some new twists.

• Innovation. The third phasein which basic science will emerge as
the initiator and leader of industrial
practice—is the brave new world the
young scientist talks about today. It's
that hoped-for utopia in which machines will do all the physical work and
man will enjoy the best possible health.
The roots of this phase may go back before World War II to the beginnings
of the team approach in problem solving. With this system a group of scientists with varied specialties cross-fertilize
each other's ideas by bringing knowledge of one scientific discipline to play
on the problems in another.

By 1939 British scientists were mov-

ing into high places in the government and industry to attack a wide variety of problems. In this country the Office of Scientific Research and Development performed much the same function, and initiated many of the wonders that helped to win the war.

Today the team approach is sweeping through our major industries, with the result that the physical scientist's computer is appearing in the bookkeeping department, sales departments are studying the motivation reports of the social scientist, psychological consult-

ants are studying the human elements of production.

III. Frontiers Ahead

All this does not mean that the young scientist's utopia is just around the corner. But it's bound to put a lot of surprises in everybody's future, and to play a big part in pushing our Gross National Product toward the \$500-billion that Pres. Eisenhower early this year predicted for 1965—a prediction viewed by many as conservative.

viewed by many as conservative.

No one knows for sure in which directions the scientists will lead us to bring about this 40% jump in output over last year's \$357-billion. It's not likely that merely increasing the size and number of things we now have will do it. Something new will have to be added. And some clues about these new things can be found in the frontiers the scientists are now beginning to explore.

• Expanding Circles—If you think of the sum total of our knowledge as a sort of sunburst (left), the fringe can represent the deepest penetration of knowledge into the unknown in any particular field. Pure scientists are constantly trying to enlarge this circle. But as they make new discoveries about the unknown, their contact with the unknown gets larger.

The area between circles is the realm of applied research and development. It's the region in which the discoveries of the pure scientists are converted into the kind of progress the layman can see. We laymen are all inside the smaller circle, enjoying the products that derive from the efforts of both the pure and the applied researcher.

the pure and the applied researcher.

• Exploring—But the inner circle cannot get larger than the outer one.

Therefore exploration of basic unknowns will control in large part how



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synonymous with peak effi-ciency in materials handling. Today write for full information. REVOLVATOR CO. 8711 Yannole Ave., No. Bergon, H. J.

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Trucks have been used to solve

a great range of materials handling problems. Quiet, smooth,

powerful operation; easy ma-neuverability; the freedom from

heavy maintenance; overall simplicity of construction of

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don't let DUST and DIRT get a grip on your plant ...

use INVINCIBLE VACUUM CLEANERS!

Only in a clean plant is maximum productivity possible. To eliminate industrial dust, dirt, and litter, faster and at less cost, specify and buy Invincible Industrial Vacuum Cleaners. Invincibles clean your entire facilities office, warehouse, factory, lab - make them safer, more healthful.

Write for illustrated beaklet - "100,000 invincibles Serving American Industry."

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". . . nature is simple. Only our ignorance has kept us from discovering the simple relationships . . ."

SPECIAL REPORT storts on p. 104

fast the anticipated developments can take place. The answers to these fundamental questions may take us in any direction. Here are just a few frontiers.

Einstein's Legacy

Whenever anyone talks of pure science, the first name mentioned is that of Albert Einstein. One frontier that Dr. Einstein had been exploring for many years before his death last month is known among physicists as the unified field theory.

Most scientists feel that nature is really simple and it's only our ignorance that has prevented us from discovering the simple relationships between many important features of our environment. There are two tremendous forces in this environment-the gravitational field and the electromagnetic field. Dr. Einstein tried to develop a theory to make these two fields compatible. It took 30 years for scientists to catch up with relativity, and it may take as long for them to catch up with Einstein's unified field theory published in 1953.

If researchers can describe a single field of which gravity and magnetism are merely two different aspects, the whole science of astrophysics may fall into line. We may be better able to understand the nature of the universe. how we got where we are and where we are going. It could provide answers for all the basic questions of life, mat-

ter, energy.

Nature of Matter

Dr. Einstein's previous theories laid the foundation for the work on the atom that led to the development of the A-bomb and the opening up of the atomic age. But there are still many things the nuclear physicist would like to know more about. He still has to solve the basic problem of what holds

nuclear particles together.

Perhaps related to the nuclear problem-but at the moment no one can be sure-is the problem of what the scientists call fundamental particles. Physicists have identified some 20 different transient forms of matter or energy. At the moment there is no rhyme or reason for what has been observed in a cloud chamber or as a trace on a photographic plate. At the moment all these fundamental particles have is names (pi mesons, mu mesons, hyperons, etc.). If theories can be developed to explain how and why these particles act, we will have gone a long way toward understanding the nature of matter and energy.

Energy

The unified field theory, nuclear problem, and fundamental particles all touch on the subject of energy. And whenever the pure scientist mentions energy he feels the hot breath of practical researchers on his neck.

Energy is a research field of unlimited possibilities, and it's the place where the two circles of our chart are probably closest together. In the last 15 years, remarkable progress has been fission and made with atomic fusion.

There has also been some progress through a revived interest in solar energy, something that fascinated Archimedes about 225 B.C.

What excites the practical researchers is this: In the past industry has always developed around sources of power, and living standards have always been closely related to the amount of power available. You see the political and economic implications of atomic power when you consider that it can be used as readily in the tropics or the arctic, desert or farm belt.

Similarly, harnessing sunlight efficiently could make desert areas centers of industry. The potential is there. It's up to research to find a way to capi-

talize on it.

· Next Steps-The thing that industrial scientists are concentrating on in the energy field at the moment is a way to avoid the heat link-the boilers in a power plant, which are the only commercial way we now have to convert fuel into usable electricity. This method is inefficient. The human body-a much more efficient enginedoesn't require a heat link, and theoretically industry shouldn't need one

Two noteworthy achievements along this line were announced last year by the new breed of scientists in industry. Bell Labs demonstrated its solar battery, which converted sunlight directly into electricity (BW-Mayl'54,p100). RCA announced a nuclear battery-a first step toward direct conversion of nuclear energy into electrical power. These are the developments to be watched.

Health and Illness

The pure scientists in medicine today are giving a lot of thought to what they call "optimal health." This marks a major shift in their attitude toward the life processes and the function of medicine. Emphasis is placed on what happens inside cells rather than on external evidence of malfunctioning. What does this mean to the man in the street?

It means that disease and illness and accidents are being looked at in toto. Instead of concentrating on some small aspect of disease, the focus is on gencral well-being and deviations from perfect health. The frontier in biology today might be called the chemistry of life. Two techniques are forcing the doctors to throw their biochemistry textbooks out the window: heavy water

and radioactive tracers.

In 1934 Harold Urey found a way to separate heavy water (deuterium) from ordinary water. You can tell the two apart by weight. This discovery made it possible for scientists to follow water through the complex systems of the human body. It showed them how the body takes complicated food substances, breaks them down into simple chemical compounds, then reconstitutes these bits into muscle, or blood, or bone as needed. It showed us that the body is in a state of equilibrium with relatively little coming in and little going out. Radioactive tracers helped to broaden the study of this equilibrium.

• New Questions—If you accept the steady state theory of health, disease is a distortion of the equilibrium. But this presents more problems than it answers. It brings up the aging problem: Why do some systems age fast and some slow? It brings up evolution: Why do some cells fail to reduplicate exactly, and therefore evolve into some-

thing different?

This steady state theory has also focused a lot of attention on the catalysts of life—hormones, vitamins, the endocrine system—which control the metabolism rate of the body. It has also focused attention on the organizer tissues discovered by German Nobel Prize winner Dr. Hans Spemann. Some day the doctors may be able to explain why the human body grows from a simple cell to a complex organization.

What Makes Us Tick

Medicine is becoming almost as much concerned these days with social problems as with medical problems. Disease is no longer the killer it once was—with some obvious exceptions. Yet the number of men rejected even in wartime by our Armed Forces and the number of people in mental institutions show that we are far from a world in which everyone is well adjusted and healthy.

We know very little about man and why he acts the way he does. Social "Our face is our fortune,"

says George C. Foerstner, Amana Executive Vice Pres.

"Or let's say it's a big part of our fortune," continues Mr. Foerstner.

"We prize the flawless finish of our Food Freezers highly — and so do housewives. In fact, as much care is taken in the manufacture of this finish as in any other part of the unit.

"We can't afford to have it marred after it leaves us. That's why we ship all our products in Atlas Plywood containers."



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Atlas Plywood Engineers designed this sturdy, lab-tested container that will absorb the shock of shipment, warehouse handling and dealer delivery.

Amana not only gains protection by this packaging but saves plenty of money besides; the container is light-weight as well as strong and its strength is so dependable Amana can now pack up to the load limits. No waste space in freight car or in storage.

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that is measuring atomic

tomorrows





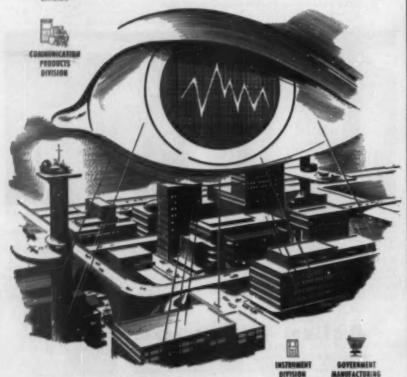
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In the near future, cities will be lighted and factories will be operated by electricity produced by nuclear energy. Trains, ships and even planes may soon use this now fuel. And Du Mont is speeding these atomic tomorrows through electronic developments based on the practical Du Mont cathode-ray tube!

Continuing Du Mont research and development, in all fields of televisual electronics, result in products of the finest precision and reliability. These products are constantly increasing in number and in service to mankind, in national defense, science, industry and the home.



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"... unexploited metals are like Emerson's weeds . . ."

SPECIAL REPORT starts on p. 104

scientists have spent years in counting and measuring-tabulating actions and classifying them. This is merely groundwork. The why of man's actions is still a great mystery.

New Resources

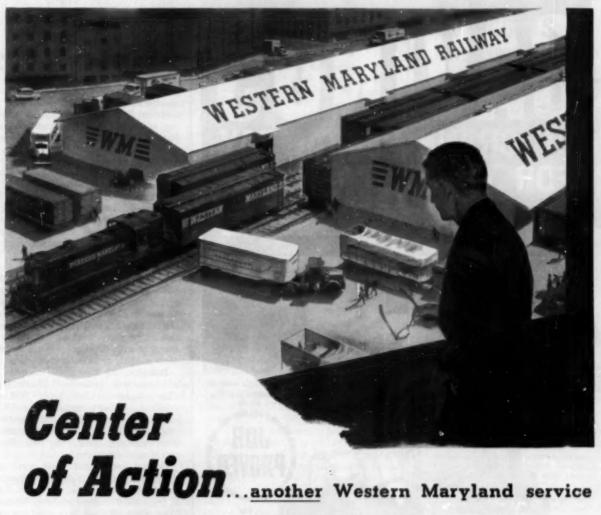
Another mystery is where we are going to find the raw materials to supply our rapidly expanding economy. Pure scientists would undoubtedly place this search in the applied category, because there's a very commercial motive: We're using resources at a faster clip than we're finding new ones. The problem has at least three major

• Low-grade resources. Better ways of concentrating the low-grade resources we are now forced to use will have to be found. This could put a lot of emphasis on byproducts. One way of making a low-grade ore more pala-table is to discover a valuable byproduct in the waste. This is true also of the waste that is now lost to the manufacturer and presented to the public in the form of stream or air pollution.

• Unexploited metals. At the mo-ment only about 25 of the 70 or more known metals are produced in commercial amounts. Many of these unexploited metals are plentiful. They are like Emerson's weeds: plants whose virtues have not yet been discovered. Recently the virtues of titanium and zirconium have been brought to light and these former laboratory curiosities are finding their way to commercial uses. But others are still awaiting discovery. If it comes, it could relieve the strain on some of the older metals. Synthetics, of course, are another possibility. A good example is provided by the packaging industry with tinless tin

· Scientific prospecting. The oil industry led the way in uncovering deep treasures by scientific means. Now the frantic rush for uranium has put the spotlight on scientific prospecting for metals. Until uranium came along, all metals were located from outcroppings in barren regions. A scientific way of determining exactly what usable metals and minerals lie a mile or so below the country's comfields or lakes or oceans could settle the natural resources problem once and for all.

· Samples-These uncharted frontiers into which the scientists are pushing lie in many directions. But these are only some of the principal samples of the numerous areas of current research in which scientists are mapping



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out the discoveries that will create the country's future.

IV. The New Breed

Who are these researchers who are changing our way of life and where do you find them? Statistics on the subject leave much to be desired. Since there's no agreement on definitions of research, there's no standard for reporting research workers or expenditures. In addition, accounting procedures vary widely.

The basic surveys include one conducted by the Research & Development Board of the Dept. of Defense in the summer of 1952 and two by Harvard Business School in the fall of 1952 and the spring of 1953. National Science Foundation is currently sponsoring another survey, which should provide some more accurate data by late summer.

In the meantime, there are no official figures, just estimates. The going figures at the moment are \$4.2-billion in annual expenditures and a total of 180,000 to 225,000 professional scientists or engineers working full time on research and development. It breaks down roughly as follows:

Industry. At least 2,845 companies now maintain industrial laboratories. They employ 105,000 to 125,000 researchers. Industry spent about \$2.7-billion last year—75% of the country's total. About \$1.9-billion of this came from industry itself, the rest from government contracts.

Federal government. Last year's expenditure for research and development was about \$2.1-billion, well over half of the country's total research budget. More than 90% of this went for applied research, primarily for scientific warfare items. Fifty-three principal government labs (such as National Bureau of Standards, Signal Corps Labs, Air Force Cambridge Research Lab, Brookhaven National Laboratory) used up about \$800-million, employed 35,000 to 40,000 research workers (not including military personnel). Of the rest of the money, roughly \$350-million went to universities and other nonprofit organizations, the balance to industry.

Universities and colleges. Figures in this category are very poor. From 25,-000 to 40,000 people are probably working on research, if you include graduate students. Expenditures ran on the order of \$420-million last year. A great deal of this (\$300-million or more) was provided by the government. In the larger universities, the percentage was often 85% of total research expenditures. Even many one-man projects in small colleges are supported by grants from National Science Foundation. Industry's direct support of university research was negligible.

". . . professional researchers stack up almost man for man with professional musicians or union plumbers . . . "

SPECIAL REPORT storts on p. 104

Of the country's 1,851 universities, colleges, and professional schools, 282 accept or will consider research projects by industry or government in accordance with institutional policies and available facilities.

States. From 8,000 to 10,000 people are employed by the states in research and development work, primarily in agricultural experiment stations. Total expenditures were something like \$90million last year. Some \$14-million come from the federal government.

Others. The miscellaneous category includes 7,000 to 10,000 people, and expenditures of about \$180-million. Major groups are (1) the 100 or more nonprofit research institutes (primarily Armour, Battelle, Cornell Aeronau-tical, Franklin, Mellon, Midwest, Southern, Southwest, Stanford); (2) the 1,500 or more independent commercial research and testing labora-tories (notably Frederick S. Bacon, Gustavus J. Esselen, Evans Research & Development Corp., Miner Laboratories, Arthur D. Little, Foster D. Snell, U.S. Testing, Comstock Wescott); and (3) the laboratories of the endowed foundations such as the Rockefeller Institute of Medical Research, Wistar Institute, Carnegie Institution of Washington, Marine Biological Laboratory at Woods Hole.

Numbers and Weight

Since the country's labor force now totals about 67.8-million persons, the 200,000 professional scientists and engineers actively engaged in research and development (plus or minus 10%) make up a minute segment of the whole. Numerically there are about three times as many researchers as locomotive engineers, about half as many researchers as coal miners, less than a fourth as many as public school teachers. Professional researchers stack up almost man for man with professional musicians or union plumbers.

Looking at the industrial figures, 2,845 laboratories is only a drop in the bucket when you consider there are well over 300,000 manufacturing concerns in this country. While many of the 300,000 may occasionally hire a consultant or participate in programs at research institutes or universities, their effect on the over-all totals is minor.

· Nucleus-The real weight in research statistics-and perhaps achievementsis carried by less than 250 companies, who employ roughly two-thirds of all industrial researchers, one-third of all researchers of any kind. They spend perhaps one-third of the country's total research budget and support a great deal of the research done in commercial laboratories and nonprofit institutes. The names of these companies are the ones that appear most frequently on patent lists and in new product announcement columns of trade magazines. Much of their success can be traced to management's active support of both long-term and shortterm research and development.

These companies are generally referred to as research-minded. They are the ones in which the team approach to problem solving is most common. They are the ones leading the trend toward employing pure scientists in industry. And they are the ones in which the dissensions between research and management are most clear-cut.

V. Money and Men

Talk to anyone concerned with research these days about problems, and you can classify 90% of his remarks under two general headings: money and manpower. This is true whether you talk of immediate problems or longterm problems.

If Pres. Eisenhower's prediction of a 40% jump in Gross National Product by 1965 is fulfilled, and the current ratio of research expenditures to GNP is maintained, the country's research budget would hit \$5.9-billion 10 years from now. If the research ratio continues to rise, however, we could reach \$7-billion by 1965.

What segments of the economy will provide this additional money? And even if the money can be made available, where are we going to find the

people to spend it?

The questions are not entirely academic. There's genuine concern about the rising cost of research. Questions you hear frequently among company brass: Are we getting our money's worth today? Are we really making use of the people we already have?

Budgeting

For the individual company, the problems are knotty ones. There are numerous cases of profitable and growing companies that carry on little or no research. There are others that have not kept up with developments in their field and have consequently failed. The first thing to be determined is the company's actual need for research.

There's always trouble when a company's reason for building a research

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". . . research costs have skyrocketed when you consider Columbus' first voyage cost only \$5,500 . . ."

SPECIAL REPORT starts on p. 104

lab is really that Joe Blank, a big competitor or the Jones of the industrial community, has built one. Successful, research-mirsded companies will tell you that you have to be convinced of the usefulness of research and willing to back up your conviction with money, if you expect to get your money's worth from research. It's not something that can be done with the left hand.

· Costs-Research is always expensive when you are forced to look at it on a short-term basis. Costs, of course, vary considerably from science to science. A Harvard Business School survey two years ago found that costs per professional research worker ranged from a low of \$9,900 per year (paints) to a high of \$34,600 per year (aircraft). If you include technicians in the figuring. the median drops down to around \$8,000 per year. Since tmined people are scarce, salaries are relatively high, considering age levels. They range from \$7,000 to \$10,000 for a Ph.D. fresh from the university, up to \$25,000 for a research director.

a research director.

The cost of equipment has skyrockcted. You don't get an electron microscope for chicken feed. The days when
industry could think in terms of \$3,000
worth of research on a one-shot deal are
passing. To get the kind of competitive
edge it wants, a company has to think
in terms of hundreds of thousands of
dollars spread over a period of years.
This is a terrific amount of money
when you consider that the total cost of
Columbus' first voyage—ships, men,
supplies—was about \$5,500. Times

• Standards—By and large management has come to realize that research isn't a commodity you can buy off the shelf. It knows that a research program is long-term speculation. But this realization doesn't eliminate the desire and the need to find out how effectively the program is progressing.

have changed.

No formula has yet been devised to evaluate research progress, and none has been found to tell how much money should be spent. Each field within each company within each industry has to be examined on its own merits.

In research circles, the idea of budgeting for research on the basis of current sales is on the way out. This ratio may be useful in stacking up your program with the competition, but to use it as the only criterion is frequently a case of the blind leading the blind. Your capabilities are probably not the same as your competitor's.

Directors of successful research pro-

grams will tell you that for a company to be a leader—and that's probably the reason it's sponsoring research—the determination of how much to spend should be based on an appraisal of capabilities in your own shop. If a company is content to be a follower, a British humor magazine provided the solution when it cynically suggested that the best kind of research came from having a friend in the competition's office.

• Calculations—Once the aim of research has been determined, it's relatively easy for a typical industrial lab to make guesses on equipment requirements, personnel requirements, time requirements—assuming it's not going in for such extraordinary items as atom smashers. Then by doubling these figures for overhead, you can often get a reasonable approximation of what research will actually cost you. The biggest question mark will probably be personnel.

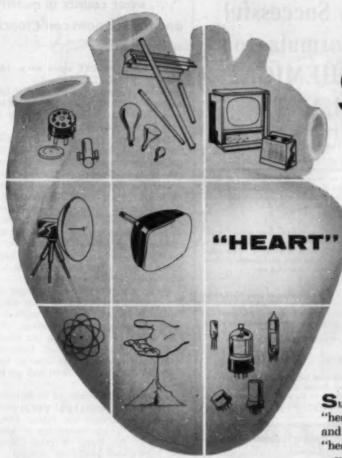
Manpower

Shortage of technically trained workers is already a limiting factor in the growth of research and development in this country. And the personnel outlook for the next few years is gloomy. The engineer shortage has been well publicized, but it's only one facet of a really critical problem. As our world becomes more and more technical, there's an increasing need for more highly trained people to keep the complex machinery operating.

If the predictions of the historical scholars about a coming era of scientific innovation are even partially correct, scientists and technologists will have more to do than important research and development work. They may also become the only ones able to understand and therefore guide industry and government and war.

This is one of the things that infuriates the long-range worriers. Each spring there's a wild rush in industry to gobble up all the technical graduates who become available. Some companies spend more than \$1,000 per head trying to lure likely young prospects into their firms. They mutter gloomily about the military's share of graduates. But they fail to do anything about the source of the trouble.

 Paradox—The roots of the personnel problem are deep. Ask any scientist why he decided on his particular career and he will tell you a story about an inspiring science teacher he had in sixth grade or a kindly teacher in high



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"... what counts is quality and the Russians can't touch us on quality ..."

SPECIAL REPORT starts on p. 104

school who encouraged him in the laboratory. Scientists are in the formative years about the time they're eligible to

join the Boy Scouts.

But here's the paradox. While science in the outside world is steadily growing in importance, science is dying out in the schools. High-school laboratories are being closed down for want of teachers and—more frequently—for lack of interest among students. Nowadays, the trend is to lump together all the sciences in one course. Sometimes this one course is taught by a historian or language major who happened to have a free hour or two in his schedule.

Every year the technical colleges of the country are forced to turn away thousands of interested applicants because of inadequate preparation. An even sadder commentary on our times is the fact that because of financial and other reasons, even among the brightest students, less than half go to

college.

If there's a shortage of technically trained workers today—and that's what the figures indicate—the future looks very black. Unless something is done to reverse the trend at grade-school and high-school level, our technological miracle is doomed to rust away for want of maintenance men.

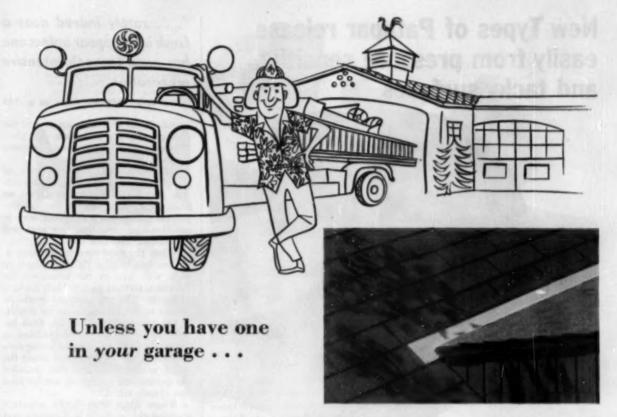
• Contrast—Military men, especially, become alarmed when they compare this with the speed at which Russia is producing engineers and scientists (BW –Jan.29'55,p151).

This situation is written off in some quarters as numbers talk. "You can show anything with statistics," the saying goes. "What counts is quality. And the Russians can't touch us on quality."

What Makes a Researcher?

This question of quality is a touchy one. What is quality in science or research? Very often we tend to confuse it with expensive or elaborate finished appearance. The people who are most alarmed about the Russian question wonder if we shouldn't think of quality in terms of creativity.

When you stop to think of it, industry doesn't much care if the research department comes up with precise reports and beautiful drawings. What management wants is a fresh idea—a better way to do an old job, a new product to fill a void in the market, a more efficient way to use materials or manpower. You can always hire



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"... rarely indeed does a fresh idea appear unless one has gone through intensive preparation ..."

SPECIAL REPORT storts on p. 104

somebody for \$5,000 a year to edit the thinkers' reports and clean up their drawings. You're sponsoring research primarily to get new ideas.

primarily to get new ideas.

• How Can You Tell?—In spite of the great mass of literature on the subject, the fact of the matter is that we know very little about the creative process. There's no foolproof way to say ahead of time that this man will be creative and this one won't.

When the great inventor Thomas A. Edison was looking for young men to work with him in the laboratory, he devised a method to test likely looking prospects. The job applicant would be invited to the Edison home for dinner. If the young man salted his food before tasting it, he was disqualified as a candidate. Edison felt the young man he wanted had to be curious about the world around him, and this included the question of whether or not his food was already salted.

• Where Ideas Start—Social scientists studying the problem of creativity and research personality are giving considerable attention now to the functioning of the subconscious mind—what Oliver Wendell Holmes called "the underground workshop of thought." They find that rarely indeed does a fresh idea appear unless someone has first gone through a period of intensive preparation in the form of reading, calculation, experimentation. These preparations are necessary to orient the problem and to insure that someone hasn't already solved it previously.

The fact that someone else has tried to solve a problem with negative results is not necessarily a sign that it can't be done. This is where curiosity comes in. Previous failure is a challenge to the true researcher. A research worker may not find exactly what he's looking for, but he never finds anything unless he's looking for something.

At one time it was thought that creativity was one aspect of cleverness or great learning. But this doesn't ring true. Many men who are very clevermuch cleverer than the discoverersnever originate anything. The innovator is usually a trained and alert observer, but his chief stock in trade is the ability to recognize analogies and appreciate the significance of apparently accidental happenings, then to seize upon the useful suggestion they give.

• Keeping Fresh—Curiosity, alert ob-

 Keeping Fresh—Curiosity, alert observation, and the ability to recognize the importance of a discovery are all





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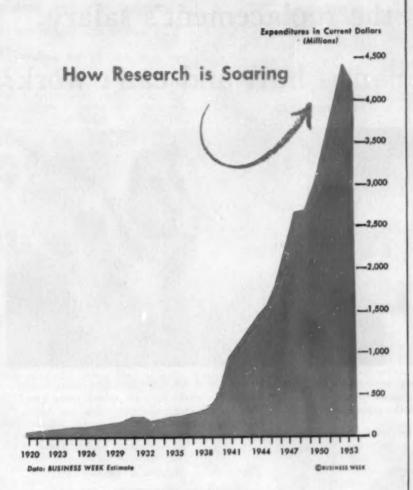
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necessary qualities of a researcher. But one of the things we're learning is that a researcher can go stale if he continues year after year in the same narrow fields. He becomes too satisfied with the way things are done, he loses his curiosity. He can sometimes be rehabilitated by shifting to another area of research where his powers of observation can be used afresh.

Building a Company Team

This is one of the theories behind the team approach in problem solving. The best answers often come from outside the specialized field in question. This is not a new idea; probably it's the rediscovery of an old one. The suggestion of the use of wood for making paper, for example, came not from a chemist, as you might expect, but from an 18th Century naturalist who had been watching wasps make their nests. This becomes important in organizing a company's research.

When a research department is

small, say 15 people or less, all members of the staff can have frequent enough personal contact with one another to understand each others projects and problems. The individual members of the department can explain their problems to the research director. The director in turn can know his man well enough to interpret findings or needs to management and interpret management's directions to his people.

• Difficulties—When a research department expands to 500 or 1,000 or 5,000, as in some of our larger companies, the lines of communication get longer and personal interpretation of findings or objectives become impractical. For bookkeeping purposes, physicists, for example, have to be lumped together, like typists in a typing pool. A man at the far end of the physicist's pool hears about other activities of the company fourth or fifth hand. His identification with a company and its products becomes strained.

Working the other way, a finding



Inventories and Crompton Factoring

If you must maintain ample inventories as a basic service to your customers... and if these inventories hamper the turnover of your capital — Crompton Factoring can relieve the strain.

We'll take over your receivables — without recourse — and provide cash on a continuing basis. Thus, at one fell swoop, you are in a daily cash position as far as receivables are concerned; you have no credit risks, no collection chores or costs. Crompton Factoring will cost you no more than your present cost of handling receivables and financing yourself independently...perhaps less.

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Who pays the replacement's salary when a key man is hurt and can't work?



1 Suppose an accident disabled your experienced superintendent. He's a key man—doing a key job—and in order to keep the plant going smoothly, you have to replace him.



2 So you hire a new man—and start paying him a salary. But where does the money come from? The job called for one man—and now you're paying two men.



3 Will the original man be removed from the payroll? Even though it will cause him and his family hardship? Or will your company continue—uneconomically—to pay both men?

Fortunately, there's a simple—and economical—alternative: Travelers Business Accident insurance. Your nearby Travelers agent has (a) the full details; (b) the desire to serve you; and (c) the backing of a company that pioneered Accident Insurance more than ninety years ago.



All forms of personal and business insurance including • Life • Accident • Group • Automobile • Casualty • Fire

"... you don't integrate research simply by putting a scientist on the board ..."

SPECIAL REPORT storts on p. 104

passed through many echelons, can lose so much in the interpretation that management is unable to see its implications. Scientists, who think and talk among themselves primarily in a mathematical language, don't do very well in putting their ideas on paper in a way laymen can understand. Separated from other sections of the plant, researchers themselves can fail to appreciate what a discovery means in terms of a company's capabilities.

terms of a company's capabilities.

• Structures and Men—The communications problem in research has prompted a great deal of analysis of organizational structure. The problem has been to discover if there is some way to organize highly creative people so that they will be happy and so that their talents can be used fully—and their discoveries appreciated.

Current thinking on the subject is that research is more effective and researchers are less disgruntled when they are organized on a project basis around their particular talents rather than on a normal functional basis like the rest of the company.

In effect, the studies are suggesting that an organization of some sort has to be built around the man rather than a way found to fit the man in some way into a job-described slot. This is heresy in orthodox organization theory.

But it has set a lot of people at the higher levels of management wondering. If the creative talents of a research worker can be more fully utilized in a project type organization, what about people in other departments. Don't they have unexploited talents too?

Much of the work on the organization of research has been done at the MIT School of Industrial Management. Some of the men who have been doing the work feel that one of the great revolutions that will take place in the next decade will be the one in organization theory.

• Focal Point—Until this revolution comes and perhaps afterwards, the research director will remain the focal point of the research problem. He must be able to flip-flop between research and management. He must understand and be understood by both sides. He must be a supersalesman for research—but he must see research from the perspective of sales and production. He won't be easy to find.

You don't integrate research into a



one-piece, entirely seamless part.

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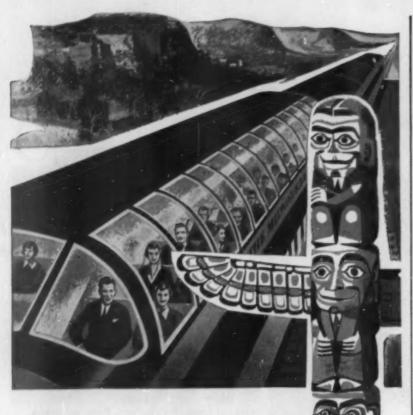
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THE MILWAUKEE ROAD

THE WAY TO TRAVEL AND SHIP

company simply by putting a scientist on the Board of Directors, although in most companies where research has succeeded there is one there. The research director, before being a competent scientist, has to be a qualified administrator, informed of company policies and firmly grounded in economics and industrial technology.

 Where You Integrate—The place where the research director can do a company the most good appears to be in planning meetings. This is the level at which research has been integrated into companies with the most spectacu-

lar results.

The theory is that salesmen don't decide among themselves what they will sell. Production doesn't decide by itself what it will manufacture. Research can offer suggestions, and it can also learn a great deal from the other departments about directions in which the company is best able to support research. Research on its own has produced many good products that have cost short-sighted companies a great deal of money by leading them into fields where sales and production were not ready to operate.

 Perspective, Too—The building of a laboratory in the suburbs looks on the surface to be contrary to the integration trend. It would seem that communications would be better with more

face-to-face contact.

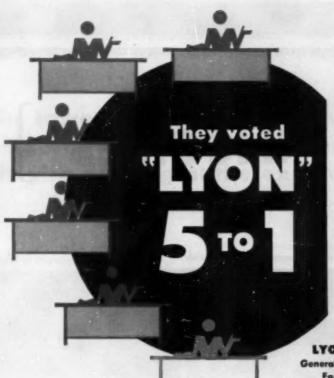
In practice, however, it hasn't worked this way. The suburban laboratory gives research in general a certain amount of prestige and individual researchers some perspective. When research is located within easy physical reach of manufacturing, it tends to lose this perspective. It becomes an appendage of production, overly concerned with minor developmental problems that probably could be handled more easily by a separate testing or quality-control lab.

Obviously, a careful balance must be maintained to afford both communication and perspective. This points up the need for a research ditector with considerable administrative

finesse.

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It's Lyon by a landslide in a recent preference survey among executives in companies throughout the country. They gave Lyon five times more first choice mentions than the second highest manufacturer . . . and twice as many as the next twelve combined!

A nationally known research company compiled those figures by asking key men in 5,000 companies this question:

"If your company were in the market for steel equipment such as steel shelving, lockers, work benches, shop boxes, etc., what manufacturers would you consider?"

Your nearest Lyon Dealer offers the world's most diversified and most preferred line of quality steel equipment. (A few items are shown below.) Equally important, he can show you how to get the most out of steel equipment in terms of time, space and money.

LYON METAL PRODUCTS, INC.

General Offices: 510 Monroe Ave., Aurora, III. Factories in Aurora, III. and York, Pa. **Dealers and Branches in All Principal Cities**

Lyon also has complete facilities for manufacturing special items to your specifications.

STEEL EQUIPMENT

A PARTIAL LIST OF LYON STANDARD PRODUCTS

INCOMES

Numbers of families and unattached individuals in each income group (thousands)

							Percent gain or loss
Personal income	1944	1946	1947	1950	1951	1953	1944-1953
Under \$2,000	12,460	11,432	11,118	11,325	9,249	8,299	- 33.4
\$2,000-\$4,999	21,020	22,745	22,812	23,731	22,811	21,134	+ 1.0
\$5,000-\$9,999	6,159	7,363	8,795	11,288	14,293	17,350	+181.7
\$10,000-\$14,999	707	1,070	1,199	1,536	1,899	2,273	+221.5 -
\$15,000 and up	534	720	816	1,010	1,228	1,494	+179.8
Total	40,880	43,330	44,740	48,890	49,480	50,555	+ 23.7

Number of teather

Dala: Department of Commerce

Everybody Gains-Mostly

If anyone still has doubts about the cautions that its figures do not take direction of the U.S. consumer economy, the charts above should reassure him.

The Dept. of Commerce's latest figures on income distribution do two things. They point up the continuation of the shift of incomes-to the advantage of the middle-income groups. More than that, they spell out better than any others the magnitude of those shifts. Specifically, the Commerce Dept. study shows:

. The hefty drop in the number of spending units that have an income in the under-\$2,000 level.

· The huge growth in the middleand upper-middle income brackets.

Upward Thrusts-Commerce Dept.

inflation into account. But even in constant dollars, the upward thrust of the economy is a mighty one.

According to a study made by the McGraw-Hill Dept. of Economics, in 1941 the number of families with incomes that would correspond at today's prices to \$5,000 and up probably numbered under 10-million. Today there are over 21-million such families, of which 19.5-million are in the \$5,000 to \$15,000 middle-income class. Between 1950 and 1953, if you adjust for price changes, this middle-income group added 4-million families, and a total income of \$39-billion-or \$13-billion a year, at today's prices.

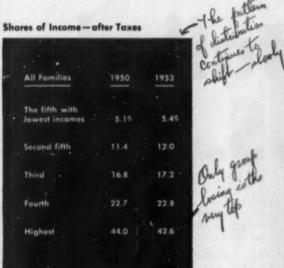
The official, detailed figures stop at

1953. However, Commerce Dept. tells us this much for the period beyond: In 1954, the over-all income rise slowed down. Total personal income (before taxes) of \$272-billion was only a shade higher than 1953's \$271.5-billion. But lighter federal taxes gave a slight upward nudge to after-tax income per fam-

Commerce Dept. believes that despite the slowdown, there was no great shift in the share of the total income held by each income group. So far in 1955, income has picked up momentum again and is rolling at record rates (BW-Apr.9'55,p17).

· Cheerful Factors-So it seems reasonable, with these precautionary notes, to take the figures through 1953 as an

The lowest income groups dwindle fast Biggest gainers are the upper middle groups They're gaining at the expense of the very top



Income groups and their shares of total income in dollars

Barrens	Total incor	ne (million
Personal Income group	1950	1953
Under \$2,000	\$14,180	\$10,642
\$2,000-\$4,999	85,856	83,898
\$5,000-\$9,999	64,400	98.301
\$10,000-\$14,999	15,113	22,841
\$15,000 and up	19,393	25,863
Total	\$198,942	\$241,545

COUSINESS WEEK

Man in the Middle

indication of a continuing trend. The McGraw-Hill study underlines several decidedly cheerful factors inherent in the data:

 If the recent trend continues, we appear to be on our way to eliminating acute poverty.

• The big growth is in those income levels that are thirsty to lap up

big-ticket merchandise.

• The middle-income groups are growing by picking up more members from the less well-heeled groups, not by pulling down those at the top. In adding some 10-million families between 1944 and 1953, the per-family income standard has not been lowered.

• Everybody Gains—This held true even in recent years. If you divide all

families into five equal groups by income, you would find that between 1950 and 1953 the average income after taxes increased at every levellike this:

															Income 1953
Low	e	st		6	f	th	ı							\$1,040	\$1,300
2nd			0				0							2,329	2,870
3rd		9					0	0	0	0			0	3,416	4,109
4th	0						0	0	0	0	0	0		4,614	5,438
High														8,946	10,176

But in one respect the top group is losing out. The redistribution of income has netted them a smaller share of the whole pie (chart). It is the only group that has lost. If you refine the point and take only the top 5%

instead of the top 20%, the same pattern holds. In 1950, the top 5% had 19.2% of the total personal family income. By 1953, its slice was 18.2%.

The forces promoting the growth of the mass market and greater equalization of purchasing power are well known. For the lower groups, the primary credit goes to fuller employment and better pay at the lower levels. One of the factors contributing heavily to the relative decline at the top is inflation, which has boosted wages and salaries, while income from interest and rents have remained relatively static. These types of income accrue mainly to the wealthier families.

What this means is summed up this way by the McGraw-Hill Economics Dept. "The share of rents in total personal income declined from 6.3% in 1929 to 3.8% in 1954, while the share of interest declined from

Highest rated transformer ever installed in U.S.

HIS is a 230,000-kva, three-phase power transformer, one of eight of this rating built by Allis-Chalmers to step up voltage for transmission from a steam generating station. Seven of the eight units have been shipped; the eighth will be shipped this year.

This enormous power transformer is an example of the record-breaking, trend-setting units built by Allis-Chalmers for power systems all over the country. Here are some of the features worth noting:

- Like all Allis-Chalmers power transformers, it is corona-free. Regardless of its tremendous size and great number of parts, the creeping deterioration of corona can never shorten this transformer's useful operating life.
- New aluminum welding techniques developed by Allis-Chalmers make this

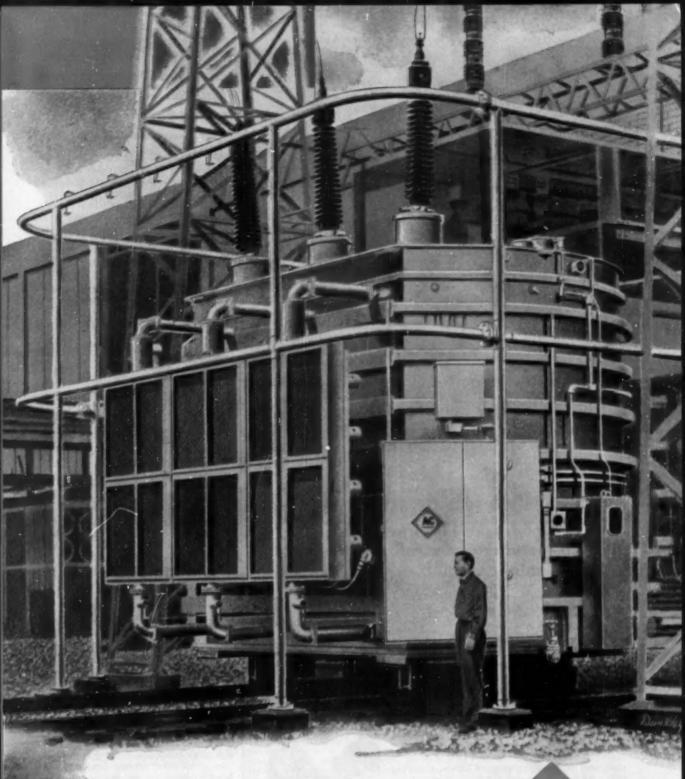
unit 15,000 pounds lighter than standard designs. Structural members are the same strength as before, but weigh far less, so that shipment and installation are easier.

This transformer tested well below requirements specified for noise. One reason: the extra-quiet cooling system, using Allis-Chalmers developed Electro-Coolers. By increasing the number of fans and reducing the individual diameters of each fan, Allis-Chalmers engineers were able to reduce this source of noise significantly without impairing efficiency. Continuous noise research at Allis-Chalmers includes tests of completed transformers at a 10-acre outdoor proving ground where exact field conditions can be duplicated.

An Allis-Chalmers representative will be glad to discuss these and other transformer developments with you at your convenience. Call the nearby A-C office or write Allis-Chalmers, Milwaukee 1, Wisconsin.



ALLIS-



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I feel like telling the boss:

"Next trip, take the pressure off...
relax in the ease and comfort of Pullman!

"He's a bundle of nerves—and no wonder! The way that man works—always on the move from morning till night—on the go so much of the time—I'm surprised he can keep it up!

"Of course, he should know better!

"I think I'll tell him. Tell him there's one place where he can relax in a world of peace and quiet—shed tension and worry as he travels without fighting traffic or weather. And that's in a Pullmon!"

If you're important to your family and business, relax—make that next trip an overnight recation by Pullman. Enjoy complete privacy. Service at your fingertips. Wonderful, hot, freshly cooked meals. On-time arrival in the heart of town with a "rent-a-car" reserved for you, if you wish. Enjoy the peace of mind that goes with America's finest, safest, surest, most comfortable and dependable form of travel—Pullman!

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RELAX from the moment you step aboard. Shrug off business tension. Forget highway itaffie hazarde and weather in a modern Pullman car—a famous hotel on wheels!



RELAX and enjoy the companionship of others, if you wish, in the friendly club cer. Everything is designed for your personal pleasure!

@1955, The Pullmen Company

". . . the picture should cheer the producer and marketer no matter what market he is aiming at . . ."

INCOMES starts on p. 134

8.6% to 5%. Had the 1929 ratios prevailed in 1954, then income from rents would have been \$7-billion higher, and from interest \$10-billion higher, than they actually were. This would have meant an additional \$17-billion of property income, going in large part to the over-\$15,000 income group, whose actual total income is now around \$42-billion."

Another factor is the progressive income tax, although its leveling effect is not so great as most people imagine (BW-May16'53,p37).

The entire income picture should cheer the producer and marketer of goods, no matter what level of the market he is aiming at.

Consider the lowest group. Though it is numerically getting weaker, each member is raising its per-family income.

• Poverty Groups—Poverty certainly hasn't been eliminated yet. At today's prices, acute poverty falls largely on families earning less than \$2,000. These three groups are the worst pinched: city families of two or more persons earning under \$2,000—there were about 2-million such families in 1953; farm families earning less than \$1,000—there were over half a million of these; and some 2-million individuals living alone who earn less than \$1,000.

This lineup suggests another point made in the government survey. The degree of prosperity varies with the kind of consumer involved. In 1953, here's the way the family units were divided with their average incomes:

	Number (millions)	Average income
Nonfarm families	35.6	\$6,390
Farm operators	5.5	3,460
Individuals	9.4	2,629

It comes as no surprise that the non-farm families are out front, both in numbers and in average income. Over two-thirds of this group (71%) had incomes of over \$4,000, and only 6% fell within the under-\$2,000 group. On the other hand, the bulk of farm families (57%) fell in the under-\$3,000 level. And 45% of the unattached individuals earn less than \$2,000 a year.

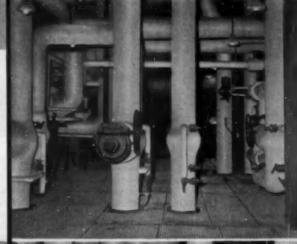
• Behind the Figures—Yet these inequalities are not so meaningful as they appear to be. On a per capita basis, the individual living alone fared better than families, which have to split their income among several people. In 1953, family per capita income came to \$1,680 against the lone individual's

Potomac Electric Power Co.

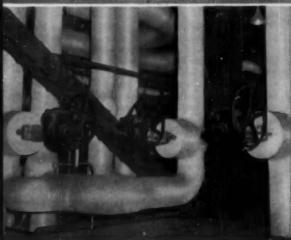
Potomac River Plant—Alexandria, Va.

Stone & Webster Engineering Corporation Engineers & Constructors

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Holding the insulation securely and lastingly in place

In the Potomac River Plant of the Potomac Electric Power Co., at Alexandria, Virginia, is one of the newest installations of Arabol Lagging Adhesive. This same adhesive was also used in the atomic-powered USS Nautilus.

Arabol Lagging Adhesive was developed during World War II to meet certain specific needs in the war effort. When the war was over, Arabol Lagging Adhesive "came ashore" – almost under its own power. Engineers, architects and insulation men in all fields of construction and maintenance recognized its value. Today, it is the accepted basic material for cementing lagging cloths of every description over insulation materials—on pipes and ducts carrying ice water, steam, cold air, hot water, gases and liquids of many types.

The formula for Arabol Lagging Adhesive is one of 10,000 developed in the five Arabol Laboratories – over the past 70 years.

Somewhere in your business you use adhesives — in the making, labeling, packaging or shipping of your product. Somewhere near your business there is an Arabol plant or warehouse ready to serve you. There are three yardsticks by which to measure Arabol service.

The first is based upon our 70 years of pioneering in the making of adhesives — to meet the needs of a hundred industries—for a thousand end uses... the second is that you may call upon any of our five laboratories to help you find the one adhesives formula that best meets each of your adhesive requirements... the third is that you are served by a nation-wide network of twelve Arabol plants and warehouses. In the event of special conditions arising in any one area, you are served from another plant or warehouse with adhesives to the same exact specifications.

We invite the opportunity to submit samples for you to test in your own plant — under your particular working conditions — for your specific requirements, whatever their nature. That is the one kind of testing that assures you of satisfactory results. Your inquiry to Department 27 will bring a prompt response on any adhesives problem. For illustrated specifications on Arabol Lagging Adhesive, kindly specify Book #12.



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Rockwell Report



by W. F. ROCKWELL, JR.

President

Rockwell Manufacturing Company

Most modern manufacturers have the know-how to cut actual production costs. And most have cut those costs.

In comparison, there has been far too little integrated effort to cut the cost of moving materials

—cost which adds nothing to a product's value, only to its price. Much progress has been made in the techniques and equipment of materials handling, but they have not yet been used at anything approaching their full effectiveness.

That is why today, and for some years to come, materials handling undoubtedly presents the richest opportunity for important cost savings.

Take a hypothetical company, for example. Of its cost dollar, thirty cents is labor cost. Of this thirty cents, ten is production labor—but twenty cents is materials handling labor.

In this situation, which is not unusual, a ten per cent cut in movement and storage costs equals a twenty per cent cut in production costs!

No one knows nearly enough about cutting movement costs. The first step in finding out more, we believe, is to give materials handling greater importance in management thinking—equal to production itself.

The second step (at least for us) is to consider materials handling not as a series of isolated, individual problems, but as a *total function* which includes movement of raw materials and components from suppliers into plants, through the plants, and then through distribution channels to the point of ultimate use.

When the movement of materials is looked at in that fashion, it becomes possible to integrate it with product design, production, packaging, distribution, even with plant location. It is then that it presents a whole new and important set of opportunities for both immediate and long-range economies,

This month, engineers at our subsidiary, Edward Valves, Inc., are completing an eight month plant study course in Nuclear Physics and its future application in the power industry. While the course was designed primarily to further the understanding of Edward engineers not immediately involved in nuclear research, it also served as a review of basic nuclear problems for those working in the field.

Not long ago, one of these reports emphasized our policy of encouraging our General Managers and their staff people to take an active part in serving their communities. After it appeared, a reader sent us this quotation from Jean Jacques Rousseau: "When public service ceases to be the chief business of the citizens, and they would rather serve with their money than with their persons, the state is not far from its fall." It sums up pretty well how we feel.

Since the beginning of the year, two more cities have switched to taxi metering from old-fashioned zone operation. We're happy that these two cities selected the new electric Rockwell-Ohmer taximeters, made by our Register Division; but we're far from complacent. There are still 200 cities of 25,000 or more population that remain to be converted to this far more equitable method of fare computation.

One of a series of informal reports on the coerations and growth of the

ROCKWELL MANUFACTURING COMPANY

for its customers, suppliers, employees, stockholders, and other friends



"... in sheer numbers, the oldsters are growing—and they are growing in economic stability, too ..."

INCOMES starts on p. 134

\$2,630. Farm incomes, too, actually would work out better than they look. That is because farm produce, used on farms, is figured for income purposes at on-the-farm prices, not at retail prices.

The lower-income groups have another shape. The lowest fifth of the nation's families include more older people and fewer children under 18 than the other groups. The median age of the head of the family for this segment is 54, against a low median age of 41 for the third highest group.

• Silver Lining—These older people frequently have savings with which they can supplement their skimpy income. In sheer numbers, the oldsters are growing—and, thanks in part to social security, they are growing in economic stability, too.

Another segment of the lowest-income groups are young people, not yet financially on their feet, who may borrow money to get a start. This group may well grow in the near future as the baby boom of the 40s is converted into new young families in the 60s.

If you look at the top-income group, too, the fact that it has not dwindled numerically is a source of comfort to those who cater to this market. There are indications that they may do better than their showing of recent years—or at least there is hope that their share of the market may dwindle more slowly. Rents are being unfrozen. Interest rates, down from around 6% in the 1920s to 3%, can't decline that much again. Stable or declining tax rates look more likely than rising ones—provided, of course, that no war upsets the applecart.

• The Eager Buyers—Any way you look at it, though, it's the middle group that is the one to keep an eye on. Not only is the great numerical growth there but it also accounts for the bulk of the aggregate after-tax income (chart). This market is eager to buy. It is not so well stocked with this world's goods that it doesn't aspire for more—and better—goods than it has.

The moral would seem clear. The trend to upgrade the market plainly has a sound basis in economic fact. The middling consumer, coming in huge numbers from the lower brackets, has what an upgraded market takes. There is one string to this upgrading business, though. There is nothing yet that points at the top of the scale to a return to the fantastic incomes that

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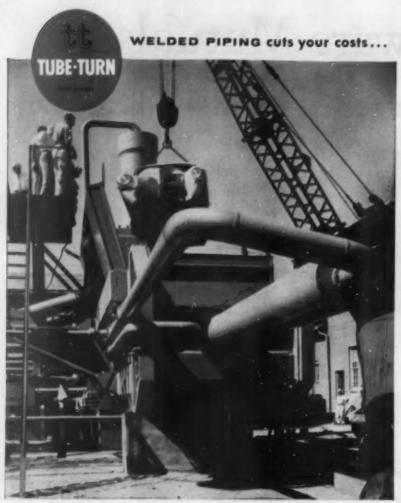
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supported a ripe luxury market of the kind we had in the earlier part of the century.

• Spending Report—Some clue in practical terms of what the pattern forecasts for 1955 comes in the Survey of Consumer Finances, prepared by the University of Michigan for the Federal Reserve System. The latest report, issued last week, looks to a probable increase in consumer spending for durable goods this year, after a slight slump in 1954.

What's more, at the beginning of 1955 consumers expected to pay more for cars, at least, than they paid last year. On new cars, the median price they expected to pay was \$2,700, against expected outlays of \$2,500 for the two preceding years. The proportion of consumers planning to buy used cars—7.5%—was bigger than at the beginning of any previous postwar year. They expected to pay a median price of \$800, higher than any postwar year except 1953.

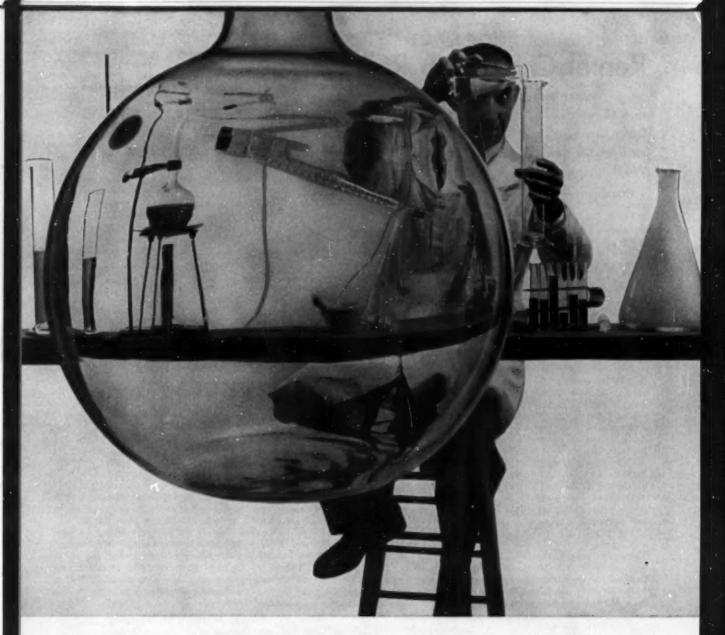
On furniture and household appliances, again, the proportion of those who expected to buy-28.5%—was larger than in 1954, but not so high as in 1953. Furthermore, perhaps as a result in last year's price drops in some appliance lines, notably TV, they expected to pay less; median anticipated expenditure was \$250 against \$300 for the two preceding years.

• TV Market Dwindles-Refrigerators

• TV Market Dwindles-Refrigerators and washing machines both registered gains in expectant buyers over last year; in fact, washing machines have a better showing than in the last three preceding years. Television sets, on the other hand, claimed a smaller market potential. Only 5.9% expected to buy a television set, against 10.8% in 1953.

The income distribution of those planning to buy was about the same as a year ago. About two-fifths of those who expect to buy had incomes of \$5,000 or more. As this income group grows, it should inevitably spell more unit sales.

• Savings Count-The proportion of consumers who borrow to pay for bigticket household items has held pretty steady since the war-at a little over a This year's survey turned up some interesting points on the relation of liquid assets-ready cash, savings accounts, bonds, and the like-to the use of credit in such purchases. It found that whether a consumer in a particular income group borrows seems to depend more on the amount of his liquid assets than on his income level. For all families, about 65% who had assets of under \$500 used credit financing; close to 35% who had assets of over \$500 used it. For each of the income levels, this ratio held good with only small variations.



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The Chemical Industry is essential to all of America's 72 basic industries. Here's the part banks play.

In 1653 when John Winthrop Jr., opened the first-known chemical plant in America, his only products were saltpeter and alum.

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Bank loans help the Chemical Industry purchase the earth's raw materials—the minerals, agricultural products, coal, petroleum and natural gas from which today's chemicals are compounded. Bank loans also help process the basic materials into finished chemicals and transport them to markets all over the nation. Chemical plant equipment and expansion often require bank loans, too. And on the retail side it's still a bank loan that helps put every chemistry triumph from miracle drugs to soil conditioners on the open market for your selection.

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But all these loans to the Chemical Industry, or any other major industry, do more than make Americans happier, healthier citizens.

They also make us busier, more produc-

tive citizens. This is so because when money works in a free economy men and women work, too.

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Rental Cars Keep Rolling

Hertz expects big revenue gains this year—not all due to mergers . . . Japan's bamboo china on the spot . . . Davy Crockett shoots back . . . Westinghouse and NBC swap stations . . . Helicopters sell houses . . . Pay TV will get a Washington test.

Rental cars are bigger business than ever.

Hertz Corp. reported this week that it expects gross revenues to be somewhere in the neighborhood of \$35-million in 1955, against 1954's \$21-million.

A good part of this growth stems directly from new companies taken over by Hertz. Biggest recent acquisition was Metropolitan Distributors, mainly a truck-leasing concern, which last year did a business of over \$8-million. Another acquisition was Robinson Auto Rentals.

But Hertz feels some of the growth should be credited to other developments. If you subtract the volume brought in by the new companies, gross revenues for the Hertz company-owned stations came to almost \$2.1-million in April compared with \$1.7-million a year ago.

Convenience is a big factor in boosting auto rentals; Hertz says that 90% of its car customers own their own cars. About two-thirds (71%) of the people who rent a car use it for business purposes.

The plane-auto and rail-auto plans have given auto renting a big boost. This is the system whereby a customer rents a car at the airline or railroad terminal. In many cases, he can arrange when he buys his ticket to have the car at the terminal he's going to.

The vexatious question of Japanese-U. S. competition apparently has blazed up again—this time with an unexpected twist.

In this country, the complaint against Japan usually is that its low-priced products will ruin the home manufacturer. This time, the complaint is that Japan is discriminating against the U.S. by setting a price floor under some of its china exports.

The new twist began shaping up last summer, when so-called "bamboo design" china sets were exported in large quantities to the U.S., at a very low price. These sets were small—only six pieces. The Japanese government had already set up "check prices"—or floors—for exports of larger dinner sets. It got scared that the bamboo sets, entering the U.S. in uncontrolled amounts

at low prices, would provoke a U.S. counterattack and that resultant tariff hikes would hit the bigger sets, too. So Tokyo set a minimum on the bamboo sets, effective April 16, and made the price applicable only to the North American market.

There's a report that the U.S. Embassy in Tokyo has protested against the new regulations—not because they set floors, but because they apply only to North America. The embassy refuses to confirm the report. And now, Japan is full of rumors that the State Dept. wants to limit protests to the china case, while the embassy wants to discuss other so-called discriminatory treatment on sewing machines, gloves, scarves.

Davy Crockett Enterprises, Inc., is striking back at the people who say it doesn't have a claim on the famous frontiersman's name for commercial purposes.

Last week, the company—which was formed to license manufacturers and retailers to use the Crockett name—sued Sears, Roebuck & Co. and W. T. Grant Co., variety store chain, for failing to buy such a license. The suits charge trademark infringement, ask that all profits from Sears's and Grant's Davy Crockett hats, socks, coonskin caps, and other items be turned over to Davy Crockett Enterprises.

A few days before, Walt Disney Productions and Rubin & Roth, hosiery manufacturers, sued Davy Crockett Enterprises, charging that it was trying to get royalties from an old trademark that had expired from disuse and belonged in the public domain in the first place (BW-May21'55,p146).

Westinghouse Broadcasting Co.'s big station swap deal with National Broadcasting Co. now needs only Federal Communications Commission's final O.K.

The deal involves stations in Cleveland, Philadelphia, and Pittsburgh (BW-Mar.12'55,p142). It all started when NBC made overtures to buy Westinghouse's Philadelphia stations WPTZ (television) and KYW (radio).

The network pressed Westinghouse hard for months. There was even trade talk of NBC's expanding its own competitive hand in nearby Trenton to hasten the switch of the Philadelphia stations from Westinghouse to NBC.

But Westinghouse proved it, too, could drive a bargain. Under final arrangements worked out between the two broadcasters last week, the chain will get NBC's Cleveland stations—WNBK (television) and WTAM (radio)—plus a cash bonus bundle of \$3-million, in exchange for the Philadelphia outlets. Westinghouse also got the NBC affiliation for station KDKA in Pittsburgh, which Westinghouse had bought from Du Mont television network.

Competition among real estate people in California has produced some new marketing gimmicks.

marketing gimmicks.

In the Los Angeles metropolitan area, the number of newly opened housing tracts has multiplied so fast that, for the last several weeks, the Los Angeles Times has had to double the size of its Sunday edition and triple the size of its Sunday housing section to carry all the ads.

Since every one of the tracts featured the no-down-payment plan, there wasn't much to draw particular attention to any one of the tracts.

But this week, all this changed.

Agents for one tract offered free helicopter rides so that shoppers could "see your new home from the air."

Agents for another offered to pick up the tab for moving the buyers' present home furnishings, and gave them a choice of a \$50 housewarming gift, as well. The ad trumpeted: "When we say 'move in free,' we mean it. No down-payment, no impounds, no costs, no moving fees."

Subscription television will get another tryout, this time in Washington, D. C., right where the red-hot political battle over the controversial pay-as-you-see TV is raging (BW-Apr.2'55,p40).

The Federal Communications Commission, which is holding hearings to decide whether it has the authority to decide toll TV's legal fate, last week O.K.'d a month-long test of the system in Washington from May 25 through June 24. FCC's hearings and the taking of testimony will be over by June 9.

Meanwhile, Columbia Broadcasting System network has taken a public stand against subscription TV. Up to now, the networks have feared that any open opposition to toll TV might not set well in Washington—where con-



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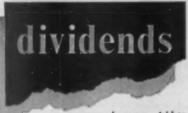
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gressmen and FCC members are clamoring for an antitrust probe of the nets. But the CBS affiliated stations, meeting in New York last week, voted 107-to-2 to oppose toll TV, and the network went along.

However, in Los Angeles the same week, Tele-census, a broadcasting poll service, reported that of some 2,600 people surveyed in a sample poll, 67.2% favored an FCC O.K. for toll TV.

Television's impact on other media has been underscored in a study just made by National Broadcasting Co. of the habits of TV set buyers in Fort

Wayne, Ind.

NBC hired W. R. Simmons Co. to do a before-and-after study of 7,500 families. The first survey was in the fall of 1953, before the town's TV stations came on the air. The second was in the following spring, after the two stations had been on the air for several months.

The study mainly concerns itself with the impact of TV on brand preference and purchase—which it finds considerable. It shows, for example, that the number of buyers of Camay soap among set buyers increased 48% at the same time there was a decrease in Camay soap buying among what the survey calls "non-exposed" women.

As far as the amount of time that set buyers spent on other media, the researchers found that it dropped sharply. Radio, of course, took the worst beating. Magazines took a licking, but not such a severe one. Newspapers got off with virtually no damage.

Here is the amount of time the average Fort Wayne set owner spent on media per day before and after buying his set:

	Before	After
TV	12 min.	173 min.
Radio	122	52
Newspapers	39	32
Magazines	17	10

In general, these figures agree with the findings from earlier studies of TV's impact on habits.

Build attractive trailer parks and you'll sell more trailers. Sell trailers and you'll sell trailer insurance.

That's the reasoning behind a three-day Mobile Home Living Exposition this week at Penn Valley Terrace, Bucks County, Pa. Some 50,000 people in-ected 111 brand new trailers during the exposition. The show was sponsored by Forbes & Belknap, large insurers of trailer homes. Jack Belknap, partner in the firm, is also president of Mobile Homes, Inc., which built the park.

Furniture Bid

A new name—Knoll-Drake—will appear on line of modern furniture for middle-income market.

A new furniture concern that promises to make a dent in the field put on a preview of its first line this week.

Austin Industries, of Austin, Tex., believes there is an underfed market in good contemporary furniture at moderate prices. It is out to meet the tastes and wants of the \$5,000 to \$8,000 income group.

Retail prices of its new Knoll-Drake line are still under discussion, but they will run something like this: perhaps \$50 for a coffee table, \$350 for a sofa. This is moderately priced as most contemporary with a famous name goes.

Austin Industries does have the name. Founder William S. Drake, Jr., former mayor of Austin and president of Calcasieu Lumber Co., understood the importance of a name in merchandising furniture-as more and more furniture makers are understanding it (BW-Aug.23'52,p38). His first step in moving into mass production of furniture was to sign up Hans G. Knoll to direct the company's design and merchandising program. Knoll is president of Knoll Associates, Inc., of New York City, which makes and sells quality furniture, mainly through its own showrooms and decorators.

Knoll Associates will continue with its own line, and Knoll will continue with Knoll Associates. His work for Austin Industries will bring him a share of that company's profits plus royalties from Knoll-Drake sales.

Because Knoll himself is not a designer, he has signed up Ladislav L. Rado, of Raymond & Rado, architectural engineers of New York, to do the actual designing.

Right now the company is lining up retailers. Since it intends to capitalize on its name, it is hand-picking stores to get those that will allow the promotion of the line by brand and designer name.

Drake looks for sales of around \$3-million the first year, and from \$4-million to \$5-million the second year.

This is not the first attempt to bring contemporary furniture to the medium and lower-income markets. Paul McCobb, for one, is shooting even lower ith his Planner Group; in this line you can buy a coffee table for \$17.95, and \$200 is tops for any piece. Most of the big mass furniture makers turn out "modern." But "name" designers are apt to snort at their production. "Dressed up box crates," one calls it.

THE MARKETING PATTERN

Britain Updates Its Retail Machine

B RITAIN is just entering a period of intense retail competition. Up to now, competition-and progress-among Britain's merchants has been, by U.S. standards, extremely sluggish. The country's structure has markedly old fashioned and inefficient, a point that was driven home by the first official retail census in 1951 (BW-Dec.13'52,

There have been good reasons for this backwardness. One of the outstanding factors in the retail picture, aside from the country's long period of rationing and shortages, was the restriction on commercial construction during most of the wartime and postwar

period.

It was only last fall that all the clamps on commercial building were finally removed. And it is from this time that you can date the real struggle for supremacy among merchants. It's a threecornered race among the cooperatives, the independents, and the "multiples," which is the British word for chains.

N THIS RACE to rebuild and refurbish, the chains have had the jump. An outstanding case is that of Marks & Spencer, the big variety, apparel, and food chain (BW-Jun.13'53,p50), which last year added some 20% to the counter space in its stores—a factor in the chain's 15% increase in sales volume during the year.

Marks & Spencer isn't the only chain to make such a showing. Up to 1951, the chains were lagging for a variety of reasons. For one thing, they were physically hurt by bombing. For another, they suffered more from rationing and shortages, since they carry more limited lines of goods. (The chains are strongest in the apparel field but are a negligible factor in food and hardgoods.) Department stores and other competitors were able to broaden their lines and thus increase volume.

After 1951, the chains picked up, and since then have outstripped the gains of the competition. The growth of the chains has been most marked in cities that were bombedout, cities like Bristol, Coventry,

Plymouth. As these towns have been rebuilt, many independent merchants simply have not gone back into business.

E CONOMIC CONDITIONS are also a major factor in the changing retail picture. Britain's better-off manual workers increasingly set the tone in retail trade. Companies that design, advertise, locate stores, and adapt selling methods deliberately to meet the demands of this section of the nation are now leaping ahead in sales and profits. The chains have capitalized on this, as have the mail-order houses like Isaac Wolfson's Great Universal Stores and some small department stores.

But the new era of consumer prosperity in Britain has also worked against the chains on one score. It is largely-as in the U.S. -a prosperity based on hardgoods (BW-Jan.29'55,p108). While over-all sales of apparel since 1950 have increased only 6%, the sale of "household goods" is up 25%.

This rising importance of hardgoods gave the cooperatives their big chance. The co-ops lagged until 1953, then went in heavily for both durables and credit selfing. Department stores have also moved, but more slowly,

The scoreboard since 1950 shows these over-all gains in volume for the different types of retailers: multiples up 37%, co-ops 32%, independents 24%, department stores 10%.

aservers don't expect to see the final turn of the battle for at least two years. It will take that long before the rebuilding of retail outlets overcomes the cnforced postwar lag. Here, however, is what they look for:

Durable goods will be the crux of the battle. The chains are expected to move into the full range of durables soon and also to start offering credit.

There will be stiff competition between the chains themselves. There will be an increasing

number of mergers and takeovers. All of this may mean for Britain a streamlining of the inefficient retail machine that showed up so poorly in the 1951 survey.

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BUSINESS ABROAD

Integration at a Standstill

All bets are off for now on the European economic union foreseen by Monnet.

Despite success of coal-steel pool, France for a time will balk at any similarly sweeping integration moves.

Meanwhile, though, there may be progress in bilateral deals by France, West Germany.

Three years ago this week Jean Monnet, the author of the European Coal & Steel Community and its only boss to date, privately made a prediction about the prospects for the economic and political integration of Western Europe. It was just as the Coal & Steel Community was set to go and just when the European unity movement—and American backing for it—was at its height. Carried away by enthusiasm that has since made the CSC itself a great success, Monnet bet that by May, 1955, Western Europe would have achieved a customs union, a common currency, and political federation.

If Monnet had allowed 10 to 20 years for the European unity idea to bear fruit, he would have been a better prophet. That is the most optimistic time scale you can now place against the integration movement. It was stopped short late last summer when France scuttled the European Defense Community. It has remained stalled ever since and is likely to stay that way at least until after next year's French election.

• Too Slow-Europe's most ayid integrationists, including Belgium's Spaak, Holland's Beyen, and Monnet, aren't ready to accept such a timetable. They still think they can get the movement off the ground within the next year (BW-Apr.23'55,p124). At the upcoming meeting of CSC's ministerial council, Spaak and Beyen will call for a new conference of the six nation CSC group to consider:

 An extension of the coal-steel pool to include other sources of energy, including atomic power.

Unification of Europe's transportation systems.

 An extension of the common market by the progressive removal of quotas, by tariff reductions, and by the equalization of social security costs.

If France agrees to the conference

proposal, it's possible that Monnet will stay on as president of the CSC High Authority. Monnet officially resigned from this post some months ago but has never been replaced. However, he has indicated his willingness to stay on if there is any really strong backing among any of the member governments for further integration steps. The problem has been whether the Premier Edgar Faure's government in France would go along even nominally.

• Change—If the Faure government does agree now, you can be sure it will be with tongue in cheek. If anything, there is less support for European unity in France today than there was when EDC was defeated. No articulate group in French business or politics has shifted its position during the interim.

Spokesmen for French industry continue to stress the dangers of further integration as long as the French social security system (which is a direct wage cost in the eves of industry) remains more comprehensive and more costly than that of other European nations. Spokesmen for the main farm organizations in France flatly refuse to consider a common market or even substantial changes in the tariffs and quotas that now protect French agriculture.

As for the political scene, there has been no real shift in the attitude of the main political groups. The Faure coalition is badly split over the issue, with the Catholic Popular Republicans (MRP) the only important group in the government strongly in favor. The Gaullists are still opposed and some Radicals have shifted to their side on this issue. The Socialists, who favored integration, are now in opposition and aren't likely to support any integration moves while they are not part of the government. In other words it's hard to see real political support until new elections are held in France.

• German Questionmark-In the back-

ground lies the unanswered question of Germany's future position—economic as well as military. There are influential Frenchmen who believe, and even hope, that Germany will be reunified and neutralized. Then, France won't have to worry any more about being swamped by West Germany in an economically unified Western Europe.

For these reasons you can expect any government in France for the next year to drag its feet on the kind of integration moves that Spaak and Beven will propose-that is, integration at a level involving some sacrifice of national sovcreignty. But that doesn't preclude a fair amount of direct economic cooperation between France and Germany. And if this cooperation develops in a way that removes French fears, it might well form the basis for more integration like that already achieved in the Coal & Steel Community. The Germans, in particular, now base their hopes on joint French-German efforts in (1) industrial exploitation of atomic energy; and (2) development of the rich mineral resources of France's African territories.

In fact, the Germans and French are talking about cooperation on five different levels:

• Expanded trade involving some long-term deals for French agricultural exports (wheat, sugar, meat, dairy products) against German exports of a wide range of manufactured goods. German and French officials have been talking about such a deal since last fall but so far without visible results.

• The Saar—where some progress has been made. The French and Germans have agreed on joint ownership of the Roechling steel plant. The next problem is to achieve some kind of trade balance. The Saar is now operating on a rule of thumb that its imports of German goods should not create a drain on French reserves of foreign exchange. The French want permanent agreement on this.

• German investment in Africa, which the French government welcomes as the only means of developing resources there. But if this investment is to amount to much it will have to be made through joint French-German companies. And it may require German investment via purchase of public utility bonds in the development of roads, railways, and port facilities as well as direct investment in mining ventures.

· German investment in France



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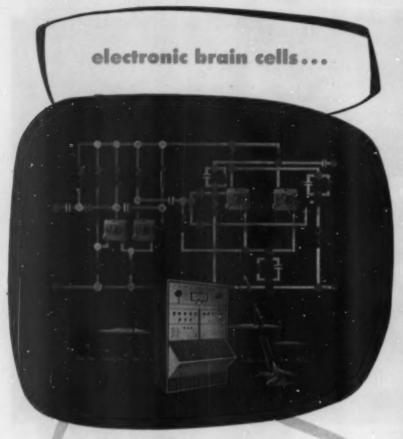
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keep an eye on T/I

. German officials say that real integration still is 10 to 20 years off . . . "

STORY storts on p. 148

itself. The talk so far has been mainly confined to arms production for NATO. However it is likely to extend soon into the area of the industrial use of atomic energy and even into such industries as steel, chemicals, and

machinery.

· Transportation, including a project to open a new water route between Lorraine and the Ruhr (the Moselle River Development) and the regulation of freight rates-both to bring German coke to French steel mills at a more reasonable price. The freight rate question is being handled by the Coal & Steel Community. But the Moselle project will have to be settled by direct negotiation between Paris and Bonn.

The West Germans, who have been all for the coal-steel pool type of integration and feel they have the most to gain from it, are convinced now that cooperation on a two-nation basis is the best that can be hoped for in the next few years. They think that if real progress can be made on this front and on the convertibility of currencies, then Europe will be ready for another integration push at the level above sove-

· Improvement-In Bonn and in the Ruhr the feeling is that European economic integration has made reasonable strides since the end of World War II. German thinking generally goes this

The present situation is a great improvement over the interwar period. World War I, the Great Depression, and World War II inevitably forced the European nations to look to their self-sufficiency and independence. As a result each nation became a self-contained economic unit. But two big ideas have changed this. In the political field, farsighted Europeans realized that to hold its own with the two giants-Russia and the U.S.-Europe must begin to unify. In the economic field, the idea of one common market on the U.S. model caught on and gave the impetus to the Coal & Steel Community.

As the Germans see it Western Europe has been lucky that the plan has operated with full American backing and in a period of steadily increasing European prosperity. German officials in Bonn are now warning Americans not to expect too much too

Bonn believes that real integration still is 10 to 20 years off.

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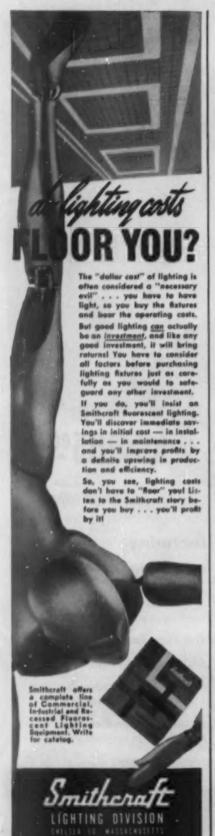
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SIMPLIFIED BUSINESS METHODS



Challenge to Foreign Program

Eisenhower's moderate proposals on foreign economic policy come under attack from economists' group; they say U. S. must be "bolder," spend more.

This week Pres. Eisenhower is well on the way to becoming the first President of the U.S. to propose, and see through the Congress, an integrated foreign economic policy program. Yet the adequacy of the program, and the assumptions on which it rests, were sharply challenged this week. The challenge: That our thinking and our policy has not gone far enough.

That is the main point of a searching, 414-page report entitled The Political Economy of American Foreign Policy (New York, Henry Holt, \$6). Two years in the making, it is the product of nine prominent political economists headed by Dr. William Y. Elliott of Harvard. It was sponsored by the Woodrow Wilson Foundation and the National Planning Assn.

The Administration's policy, comprehensive in a way unprecedented in our history, is modest, conservative. It represents the considered judgment that a moderate program is adequate to retain U.S. leadership of a healthy and expanding free world economy.

• Bolder and Costlier—The political

• Bolder and Costlier—The political economists say no. The free world, they conclude, is still too divided, too weak, to cope successfully with the twin challenges of Communism and the political and economic revolution sweeping the underdeveloped lands. Fundamental changes in our economic and political organizations, and a clear common policy toward underdeveloped countries, must come if the free world is to survive. And that, the study group believes, will demand much bolder—and more expensive—leadership from the U.S. than anything now contemplated.

The economists reason this way: The industrial nations in Europe, and Japan, will have great difficulty over the long haul finding markets and sources of supply to support their trading economies at a politically acceptable level. They are caught in a squeeze between the dynamic U.S. economy, invading their traditional markets, and shrinking supplies of raw materials as underdeveloped lands expand their own industry. The squeeze will continue, the political economists believe, and will be reflected in recurring trade imbalances and dollar shortages.

What about the classical economist's answer-let the price mechanism work freely to balance a nation's accounts, as in the free-wheeling 19th Century trading world. It doesn't apply, says the report. It is impossible politically for

20th Century governments to restrict their peoples' living standards in an effort to balance trade.

• Barriers—In underdeveloped countries, equally troublesome trends are developing. Economic nationalism, growing everywhere, not only restricts the industrial nations' access to markets and supplies. It also blocks the flow into those countries of capital needed to keep economic development proceeding at a fast enough clip.

Everywhere, the authors of the report see this paradox: more and more barriers to trade and investment when the times demand ever closer inter-

national cooperation.

• Regional—This analysis draws some radical suggestions from the political economists. New formal international institutions are needed, along with more conscious coordination of national policies. The U.S. must take a regional, rather than a global, approach to foreign economic policy.

to foreign economic policy.

For example, the U.S. should work for much tighter economic organization of the Atlantic Community. It should continue to push European economic and political integration. It should help create an Atlantic economic community to coordinate U.S. and Canadian policy—and that of Japan—with

that of Europe.

This would give the Atlantic nations greater bargaining power vis a vis the underdeveloped nations. Foreign investment efforts could be coordinated. U.S. public investment—and loans—could be used to bolster Europe and Japan by permitting our funds to be used for purchases of European and Japanese goods.

• Extremist—Behind these suggestions is the theme that the U.S. economy is so strong that other nations need protection from its competitive power. For example, we must be prepared to make one-sided tariff cuts, continue raw material stockpiling. Aid in all forms must be continued, and perhaps even tripled

in volume and value.

It's a radical, almost visionary, approach. The study group's view about the nature and size of the problems ahead clash with official policy, and with most unofficial U.S. thinking. Yet Prof. Elliott and his colleagues have done an important service. They have reminded Americans that our thinking in the matter of foreign economic policy is not finished, but may be just beginning.

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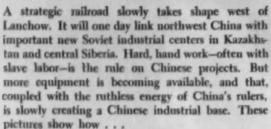
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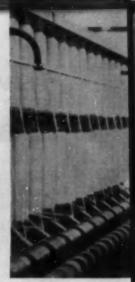




Soviet Methods and Machines Go to Work in Communist China

(Story starts on page 158)

VEHICLE FACTORY, China's first, goes up at Changchun, one of 141 projects that Soviets agreed to help build. Towering crane, hefting prefab sections, is typical Soviet technique. Plant is scheduled to open in 1956, produce 30,000 units yearly.



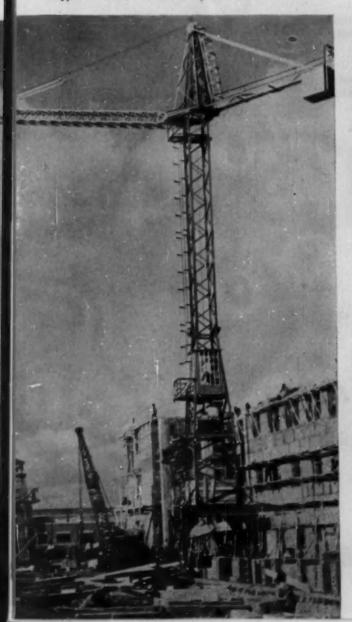




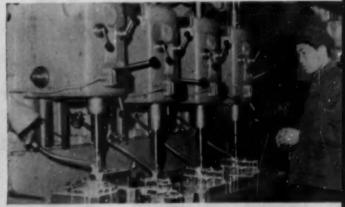
TEXTILES are probably China's most efficient industry. This is a new mill in Shensi province, northwestern China. Eastern girl at left (her shirt commemorates factory opening last year) was shipped to Shensi to train country cousins.



FARM TOOLS, animal-drawn and made from Manchurian steel, are produced at Shenyang. Government hopes to lure peasants into cooperatives with offers of implements. But even simple tools hardly dent needs of primitive Chinese agriculture.



COAL MINING at Fushun, Manchuria (above), and steel mills nearby are the backbone of Chinese industry. Japanese developed area, Soviets took it over, now Chinese hold sway. Shovel may be Russian, Japanese, or even locally built in Manchuria.



MACHINE TOOL plant in Manchuria sports four-tool drill press. Most precision tools appear to be East European in origin; the one above may be Czechoslovakian. But Chinese now boast they are able to manufacture tools of their own.

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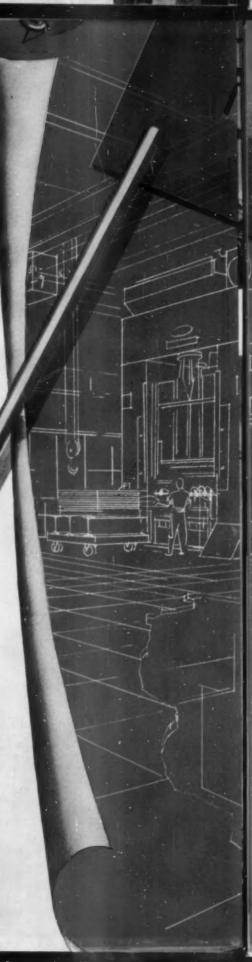
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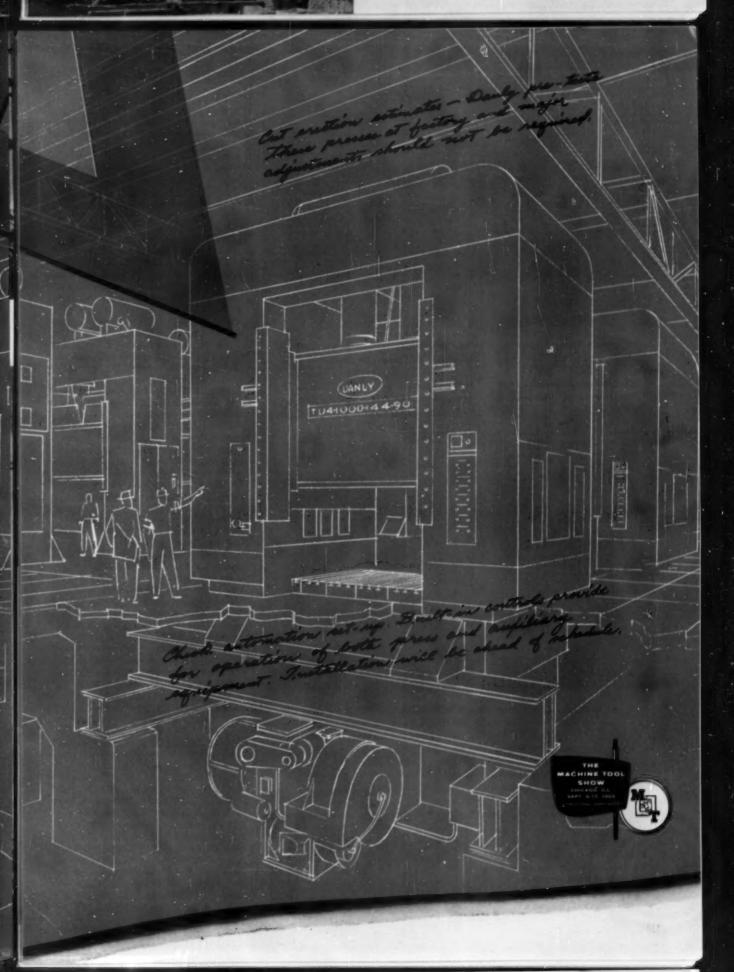


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Sifting through hundreds of pictures from Peking, you get a feeling of the drive, as well as the problems, of Communist China's industrial development. To be sure, the pictures are Communist prints—posed, shot, and delivered to the West in accordance with Communist policy. Yet they afford a worthwhile glimpse of what is going on.

Even screened propaganda pictures indicate that major development projects depend on hand labor, much of it slave labor. In the foreground will be several impressive new bulldozers—while the background swarms with men moving earth with small hand carts. Yet there is increasing evidence of recent, and typically Soviet, equipment at work (such as electric-powered shovels) and typically Soviet ways of doing things.

There's no question that Soviet industrial aid to China is a real, and important, factor. It may be increasing, especially since last fall's pilgrimage to Peking by Soviet leaders Khrushchev and Bulganin. Soviet earthmovers, East European machinery—like German sugar mills and Czech machine tools—pop up constantly in Chinese pictures.

Occasionally, machine tools are captioned made-in-China. Some may well be; Western embargo has hurt China, and East Europe can't supply everything. So the Chinese have been forced to do it themselves. The quality and workmanship may not be of the finest, but Westerners believe the machines will do the job.

• 50-Year Goal—Many of the photographs are labeled as Manchuria; they tend to square with the Western view that the reconditioning of China's major industrial centers there is nearly complete. But in the new batches of pictures you find mounting emphasis on new industrial areas in northwest and central China.

There's emphasis on transport in current Chinese pictures—like the urgently needed rail link with Soviet Kazakhstan, and the new road to Tibet. Physically speaking, China is being knit together as never before.

China's forced industrialization is clumsy and wasteful; Peking papers often berate various plants and industries for inefficiency. And certainly, industrialization has barely acratched the surface of Asia's largest and poorest country. Yet it would be foolish to underestimate the tremendous energy that China's Communist overlords are putting to work (Special Report, BW-Jul.24'54,p92). They are thinking in terms of 50 years of labor. Whether their totalitarian methods-pursued at the expense of living standards—can succeed in building an industrial base in Asia is for history to decide.

Coffee Prices ...

... fall and Brazil looks to Europe for relief on its trade problems. Brazil might even join EPU.

Coffee-loving Europeans—the Germans and the French—were up to their ears this week in Brazil's hectic internation payments problem that always revolves around its chief export, coffee. There were wild rumors from Rio that French and West German business groups are considering heavy investments—\$1-billion apiece—in "the land of tomorrow."

But probably what's really in the wind are new trade negotiations. That might mean limited investment, especially with blocked profits that can't

be repatriated now.

These negotiations also involve, indirectly, the other coffee-producing countries—particularly Colombia, which does well in the German market. Manuel Mejia, president of the Colombian coffee federation, is visiting Bonn this week. Apparently his trip was timed to coincide with the arrival of a West German trade delegation in Rio. The Germans are seeking a way to keep German commercial debts from piling up behind Rio's foreign exchange barriers.

• Alignment with Europe—One suggestion heard in Rio is that Brazil should enter the European Payments Union (EPU). That way Brazil's European creditors could swap debts of against each other's accounts and so get paid more quickly, and keep European exports flowing to Brazil. It's a pretty grandiose scheme. But with West Europe back on its feet, and both France's and West Germany's foreign exchange holdings growing, EPU members might go for it. Besides, many West Europeans have the same super-optimism about the long-range outlook of Brazil's market as the flamboyant Brazilians.

But the Brazilian market depends on coffee receipts. And last weekend, coffee prices hit their lowest in five years, with retail prices in the U.S.—by far the world's largest consumerabout half of those of last summer's crest. Brazil's new finance minister, Jose Maria Whitaker, moved still further away from government control of the market (BW—May14'55,p158) by scrapping any government-guaranteed exports price. That pulled the remaining prop from under coffee prices.

Rio says there is nothing malicious in the plan-no plot to war on the Colombians, who are suffering badly from

the price drop.

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Soviet Deal in Argentina

Russian display marks treaty signing . . . ICFTU meeting . . . A new Gripsholm . . . Ansaldo branches out . . . Volkswagen victory . . . Australia's trade dims.

The Russians were having a propaganda heyday in Buenos Aires this week with the signature of a new \$100-million Soviet-Argentine trade pact and the opening of an imposing Russian trade fair. Argentine's dictator-president, Juan Peron, was not losing the chance to point out, indirectly, that he can look to Moscow for aid and comfort.

The Russians' fair was getting the full Peronista treatment—even the Casa Rosada (Argentina's White House) publicity machine was whooping it up for the exhibit. And it was imposing: over 100,000 sq. ft. bordering Bucnos Aires' port area, a third of it covered in a white "byzantine" beaverboard building. The show was one recently held in India, then packed up and sent to Argentina. Inside, the Russians are showing everything from caviar to new farm machinery and motor transport.

It was formally opened by Mikhail Kuzmin, the Russian undersecretary of commerce, who headed the 13-man delegation sent to negotiate the new trade pact. The treaty has set a goal of \$100-million in trade between the two countries for the coming year. That's \$30-million less than the goal provided in last year's trade treaty. But it still is a tidy sum compared with \$22-million in trade between Russia and Argentina in 1946, considered a normal total.

Argentine sources say the target was met in 1954-but government figures show that the Russians didn't deliver the goods they had promised to, meeting only one-third their quota. The deficit finally has wound up as a \$14-million carryover into the new pact.

The new agreement is mostly a barter arrangement: \$50-million in Argentine linseed and edible oils, hides, and wool, will be traded for an equal amount of Russian products—mainly petroleum, and iron and steel items. Since the Russians are paying more than world market prices for Argentina's agricultural produce, the treaty seems to favor Buenos Aires.

While free world statesmen prepared to meet Communist leaders, non-Communist trade unions this week refused to make any compromises with Communist "unions." The conference of the ICFTU (International Confederation of Free Trade Unions) rejected a "popular front" appeal from WFTU, the Communist world federation.

Anti-Communist determination was expressed by delegates from both the Orient and the Occident:

 An Indian delegation, members of the Indian Congress of Trade Unions (affiliated with Prime Minister Nehru's Congress Party), told the ICFTU they had turned down a Communist invitation to join an Asian federation.

 The American delegation brought forward a proposal to boycott Communist bloc goods, arguing that they were manufactured by slave labor.

• A move in West European and American delegations to blackball the Titoist unions, now that the Yugoslavian dictatorship may be moving back to the Moscow fold (BW-May21 '55,p162).



The keel for a new Gripsholm was laid the week before last in Genoa. At 23,500 tons, she'll be Scandinavia's largest passenger ship, and queen of Swedish American Line's fleet. Delivery next year will be none too soon: Swedish American's present passenger vessels, Kungsholm and Stockholm, are booked to the gunwales this season.

The Gripsholm's namesake, the famed white mercy ship that repatriated Americans during World War II, is now the Berlin, sailing under the flag of North German Lloyd. The new Gripsholm will be Italian-built; the contract was won by Genoa's Ansaldo yards in competitive bidding among a

number of European shipbuilders. Gripsholm's two big diesel engines are under construction at home in Sweden.

Ansaldo of Genoa is operating on a worldwide scale. The Italians recently nailed a handsome contract in Venezuela to supply a raft of electrical and mechanical machinery for the new drydock building at Puerto Cabello. And Ansaldo has a new order from India, to supply and set up machinery for a chemical fertilizer plant. Montecatini, Milan, the Italian chemical combine, will supply patents, engineers, technical aid for the plant.

Another Italian corporation, one of the largest, has firmed up a project in Mexico. Societa Internationale Pirelli is joining forces with an affiliate of Anaconda Wire & Cable Co. and a Mexican business group to set up a telephone cable factory.

First quarter foreign car registrations are in. According to Ward's Automotive Reports, Volkswagen, the West German prodigy, leads the pack with 3,837 U.S. registrations, January through March. Britain's MG is second and Jaguar is third, with 1,144 and 804 units respectively. All other imports: 3,061.

Australia's trade picture is gloomier. April imports were 41% above April, 1954; exports were off 11%. The first 10 months of the current fiscal year have produced a \$113.5-million deficit in current trade, compared to a surplus of \$368.7-million in the similar period before.

It is still too early to expect results from April's drastic import and credit curbs. Businessmen, meanwhile, are worried—they insist most of the imports are machinery, tools, metals, desperately needed to develop the country. They urge a campaign to increase exports, and to interest more foreign capital in Australian opportunity (BW-May14'55,p148).

Three Vickers Viscount turboprop airlines will be flying for U.S. Steel Corp. Capital Airlines flies and services the Big Steel airfleet; now that Capital has bought British planes, the steel company is following suit.

Capital just took delivery of the first of 60 Viscounts. Vickers-Armstrongs Ltd., with orders for 189 Viscounts on the books, is setting up a worldwide service system.



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INTERNATIONAL OUTLOOK

BUSINESS WEEK MAY 28, 1955



SERVICE

The West has scotched the Soviet idea of making a unified Germany part of a neutral belt across Central Europe. Moscow has been trying to peddle this idea in advance of the Big Four talks (page 25).

Secy. of State Dulles this week clarified the U.S. stand on neutrality. He joined West German Chancellor Adenauer in flatly refusing to have the Austrian neutrality pattern applied to Germany.

The British government is taking the same view and so is the French.

Western leaders just won't buy a German settlement at the price of neutrality. They are determined, and Adenauer is the most adamant among them, to keep Germany in the Western Alliance.

As the West sees it, Moscow is anxious enough for a settlement to give up East Germany on terms the West can accept.

Meanwhile, there is little danger that Moscow will shy away from Big Four negotiations simply because the West has rejected this Soviet gambit.

As things look now, Soviet Foreign Minister Molotov will use the special San Francisco meeting of the United Nations to settle both the date and the agenda for the "summit" meeting.

Eastern Europe has its eyes glued on Belgrade this week as Tito receives the Kremlin's top leaders.

The satellite governments and the underground opposition realize that Eastern Europe will be deeply affected by the pilgrimage of Communist Party boss Khrushchev and Premier Bulganin to Belgrade.

Khrushchev and Bulganin would not have made the trip unless they were willing to take Yugoslavia back in the Soviet camp-without forcing Tito to return to the status of a satellite. Such an arrangement inevitably will lead to pressures in other countries in Eastern Europe for a loosening of Moscow's centralized control system.

Still, the West should not gloat too much over that. This week Tito is well on his way back to the high counsels of Communism.

France's troubles in North Africa have reached the crisis stage. Before the year is out the crisis could topple the Faure government.

Center of the problem is now Algeria. This territory, unlike neighboring Tunisia and Morocco, is a part of metropolitan France, so there is no way to meet nationalist demands by conceding more independence, as the French have done in Tunisia.

The Faure government has found no answer to the problem except force. This week French troops there were increased from 50,000 to 100,000.

But this won't stem the tide of nationalism in Algeria. And it's sure to fan new flames in Tunisia and Morocco.

By fall things could reach the point where France may look to ex-premier Pierre Mendes-France, as it did in the case of Indo-China, to find some way out.

INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK MAY 28, 1955 peans—and Americans, too—expect the Russians to bring it up at this summer's Big Four meeting.

Meanwhile, the Soviets seem to be stepping up Western buying. Besides raising its food and textile purchases (BW—May7'55,p148), Moscow has reconfirmed suspended orders for British textile and dairy machinery. And Russian shoppers are back in the London rubber market after a three-year hiatus.

True, much of this is emergency buying—the Russians need certain foodstuffs badly. But the Economic Commission for Europe reported this week that 1954 East-West trade in Europe hit a postwar high. And ECE expects a "further appreciable increase" in 1955.

Moscow and Peking remind visitors that real expansion in trade is possible only in capital goods. Many are embargoed by the West.

All eyes are on Washington now. Pres. Eisenhower seemed willing last week to use the possibility of expanding trade as a bargaining weapon with the Russians. Washington says that is a premature reading. But you can be sure European—and U.S.—manufacturers and traders are thinking ahead.

The joker, of course, is whether the Soviet bloc has anything to sell.

Supplies of oil, timber, and minerals are limited. The Russians do have gold and platinum, but not to pay for imports over a long haul.

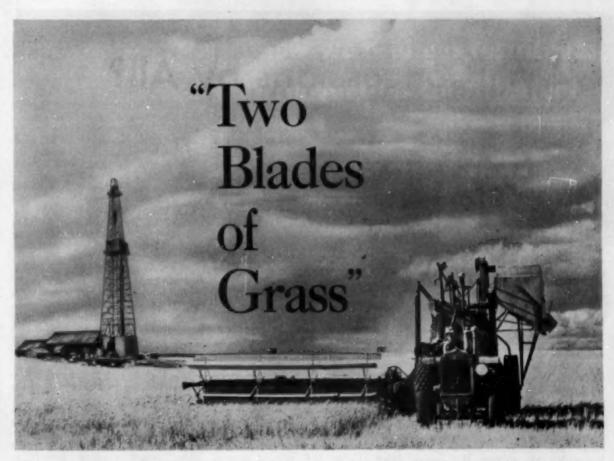
Some observers look into the future—and speculate about Western credits to the East. That might come—some day. But the consensus now is that a big expansion of East-West trade is a long-term possibility, not a short-run probability.

U.S. buying of British industrial shares is a growing influence on the London stock market. Dealers there guess \$50-million has come onto the market in the last few weeks.

One of the bluest of British blue chips involved is Imperial Chemical Industries Ltd., which just issued a glowing annual report and moved up Wednesday to an all-time high. Sales (at £352-million) were up 25% last year, net climbed 20%. Prospects seem bright—at a price less than 10 times earnings.

Other American favorites are Bowater Paper (expanding fiercely), British Petroleum and Unilever (both with record 1954 sales), British Ford, Electrical & Musical Industries. Londoners think their stock prices already have pretty well discounted much further industrial progress. But London also guesses that many of its stocks are probably cheap when compared to Wall Street prices.

Four separate groups of British companies have set up joint research, development, and sales organizations to build complete nuclear power stations anywhere in the world. The groups bring together makers of generating plants, turbines, boilers, and instruments with design-engineering staffs. They're apparently looking ahead at the "dry areas" without coal or oil or water, like Australia, central India.



Two CENTURIES ago Voltaire said, "He who makes two blades of grass grow in place of one renders a service to the State." The job of Standard Oil Company (New Jersey) and its affiliates is something like that—to produce oil where none was produced before and, by so doing, to create wealth for everybody.

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- 1954 was our top year in sales, earnings, and dividends paid to owners.
- During the year, we spent 764 million dollars for new equipment and for exploration. Since World War II, we have spent 5 billion dollars for the means to meet your future oil needs.
- 6. Research was productive. Our research affiliate obtained more patents on products and processes than any other oil company. In Linden, N. J., the first atomic laboratory in the oil industry is being built to study the uses of radiation in oil refining.

- 7. Current developments in atomic energy will mean greater availability of electric power: increased mechanization, expanded industry, and greater use of petroleum products. The oil business will gain, and you will have the benefits of both kinds of energy.
- 8. We played an important part in arranging to return Iran's oil to world markets.
- A world's safety record for major refineries was set by Esso employees at Baton Rouge, La....7,911,769 manhours with no disabling injury. This passed the previous record by more than a million man-hours.
- 16. We have long supported education through our taxes. We have also felt an obligation to aid privately supported colleges and universities, which are an important source of new employees and of informed citizens. During 1954, we contributed about a million dollars to such institutions.

If you wish a copy of the full Report for 1954, write to Standard Oil Company (New Jersey), Room 1626, 30 Rockefeller Plaza, New York 20, N.Y.

STANDARD OIL COMPANY (NEW JERSEY)
AND APPILIATED COMPANIES



AW: Concessions by All?

Indications in Detroit this week pointed more strongly than ever to the probability that the principle of guaranteed annual wages will be established in some way in auto contracts this

At the same time, two other things were apparent as bargaining reached a decision stage. If guarantees are agreed on, they will not be in the form of an inflexible GAW pattern to be followed to the line elsewhere this year. Moreover, they will result from giveand-take bargaining in which management will seek and win substantial concessions toward tighter, more effective contracts.

Two developments outside Detroit early this week hinted that effects of a possible GAW plan evolved in auto bargaining might not be so far-reaching

in 1955 as expected:

• The International Union of Electrical Workers (CIO), which is bargaining on a GAW demand with General Motors, alongside the United Auto Workers (CIO), didn't wait for a guarantee decision in GM talks before signing with a key employer-Radio Corp. of America. Although it had made GAW an issue, IUE signed with RCA for a 101¢ "package"-a 51¢-an-hour pay hike, 3¢ an hour for pension improvements, and 2¢ in other "fringe" gains. The union also agreed to extend the RCA contract (due to run out in June, 1956) until mid-1957,

with a simple wage reopening in 1956.

• In Toledo, regional UAW officers preparing for a wage-policy conference next week announced that Detroit settlement terms "will not be applied rigidly" in bargaining with 125 cmployers of 50,000 UAW members in the area. Negotiations will be conducted within the cents-per-hour "package" expected to come out of Ford Motor Co. and GM negotiations, but will not necessarily include bargaining on GAW demand. Significantly, the regional UAW office noted that about a fourth of the UAW employers in the Toledo area (30 with 2,000 cmployees) still aren't covered by pension contracts, five years old in UAW.

· Counterproposals-These new developments, along with last week's UAW-influenced glass settlement setting up a labor-management GAW study (BW-May21'55,p170), have helped ease employer worries about forced bargaining on guarantees this year-should guarantees be written into Ford or GM contracts.

New indications that they would be, in some form, came late this week as Ford placed its long-awaited counterproposals to UAW demands before the union. A complete economic package, they included Ford's answer to the auto union's insistent guarantee de-

Earlier, GM had handed counterproposals to UAW negotiations, including partial acceptance of the GAW principle (BW-May21'55,p170).

• No One Pattern-The two counterproposals are the result of intensive studies made, independently, by Ford and GM. Each sought answers to GAW questions based specifically on its own economic conditions and prospects. It's hardly likely that the ideas -and others-of the two jibe completely. And since GAW must be related so integrally to management economic and production policies, probably neither Ford nor CM would be willing to accept a "pattern" plan tailored to fit the other.

Thus the prospect is that should either major auto producer sign for a guarantee plan, bargaining will still go on over terms of a plan for the other. Unlike 1949 pension bargaining, when a single plan spread through the industry-and out of it to othersno one GAW program might develop in current bargaining. UAW has given its tacit recognition to this in the past two months by maintaining consistently that the amount guaranteednot the means by which it is assured -is what it is interested in.

· On the Sidelines-So far, GAW bargaining has overshadowed other news coming out of Detroit bargaining rooms. Actually, more negotiating time has been devoted to other contract issues, some of them highly controversial in company-UAW deliberations.

In particular, this seems true of a set of demands made by Ford, which is interested in tightening its labor agreement and eliminating what it calls inequities existing between its contract and others-mainly GM's. Ford, for

instance, wants to:

· Exclude certain workers-such as timekeepers and production and quality control employees-from UAW jurisdiction; UAW not only is opposed to doing this but wants its jurisdiction broadened to include all employees (including office workers) who aren't classed as superintendents, foremen, or

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personnel on confidential jobs con-

nected with management.

• Eliminate full-time union representatives paid by the company to deal with grievances and other labor problems in Ford plants, substituting partime representatives (limited to two to four hours a day on union work) such as those under GM contracts. Ford also wants to reduce the number of union representatives to one for every 250 employees. UAW has insisted in bargaining on "more adequate representation" on a full-time basis, as now.

Tighten management rights provisions to give the company sole discretion over promotions to higher-paying jobs; greater flexibility in assigning overtime, and the right to use skilled craftsmen for work "incidental to the job to which they are assigned."

• Write into the contract a specific authorization for the company to use outside contractors at any time and on any job, without restrictions. UAW, on the other hand, is worried about declining Ford employment, and wants the contract tightened to limit to "employees working directly for the company and covered by the agreement... work that can be done by employees."

• Tighten grievance procedures and eliminate "strikeable issues," with more effective protection against work stoppages and other interference with production as the objective.

Along with other technical changes in the contract, these are demands that Ford considers vital for effective operation in an increasingly competitive industry. UAW, despite the secrecy policy covering present negotiations, has made clear its opposition to Ford's demands, arguing that they would "restrict" the present contract.

The importance of these secondary demands of Ford shouldn't be minimized. There is a tendency in industry today for management to review contracts, and to tighten—as much as possible—provisions allowed to become lax through the past few years. Independents in the auto industry have done it, notably Studebaker-Packard (BW-Aug.21'54,p122), arguing with UAW the need of keeping competitive.

Ford reportedly feels that this is the time to bargain for changes that it has wanted for a long time—such as that on union representation, which costs Ford an estimated \$23 a year per employee under its contract as compared with GM's \$3 a year. An offer of "a complete economic package" covering all union demands reportedly is backed by Ford's determination that the union make concessions on some of the company's tightening demands.

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Engineers Hoist Union Banner

Walkout at Minneapolis-Honeywell achieved no monetary gains, but it highlighted the fact that salaried technicians are swinging toward organized labor tactics.

Striking engineers and technicians of Minneapolis-Honeywell Regulator Co., in Minneapolis, returned to work this week on terms they rejected before their walkout one week earlier.

Measured by contract gains, the strike won them nothing. Yet the engineers' union claimed a "commando raid" victory in "long-range strategy to further unionism among engineers.

Before World War II, professional, salaried engineers worked individually, and handled matters of employment terms directly with management-disdaining unionism.

The tremendous expansion in employment of engineers that began in the 1940s has altered this lone-wolf policy; many of the salaried professionals are now in a still-undefined gulf between the old conception of the engineer as an integral part of management and a new one linking him closer to production workers.

Some have turned to unions and to traditional union tactics, hoping to establish an in-between spot for them-

For instance, while the Minneapolis Federation of Honeywell Engineers had a claimed 1,350 engineers and technicians (from among 1,500) on strike:

· Some 265 professional and technical workers at Crane Co.'s Chicago works struck for two days before signing a new contract for general salary increases and additional employee benefits. Unlike the Honeywell union, the Crane engineers' local is affiliated with the United Steelworkers (CIO)but it deals separately with management.

• The Lockheed Engineers & Architects Assn., affiliated with the Engineers & Scientists Assn. of America, a professional union (BW-Aug.28'54, p108), bargained with Lockheed Aircraft Corp.'s Burbank (Calif.) plant with a strike threat on the table. Representing 2,600 professional workers, EAA won a 3% "package" increase and other "fringe" gains.

• Rivalry—The Minneapolis-Honeywell

engineers are also loosely affiliated with the independent ESA, but are otherwise strictly on their own. Unlike the Crane group, they have no close rela-tions with the production workers' union in the plant-Local 1145 of the Brotherhood of Teamsters which bargains for about 8,000 hourly paid employees.

Organized in 1946, the Minneapolis

Federation of Honeywell Engineers was regarded in the plant, at first, as management-favored, not a company union but one tacitly approved to keep the production workers union from establishing a beachhead among pro-union employees at the professional level.

The rivalry that began then has never died down. Many in Local 1145 still regard the engineers' union as too management-minded, partly because it represents-among others-Honeywell

time-study men.

· Walkout-When bargaining with management deadlocked this year between an engineers' union demand for an 8% raise and a Honeywell offer of 2.8% more, the union struck. The professional workers threw a picket line around Honeywell plants, but the Teamsters members streamed through the line. Although Local 1145 officers announced that production workers would not touch struck work, the engineers' union widened the breach with the Teamsters by accusing the produc-tion workers of "strikebreaking" and intimating Local 1145 collusion with Honeywell.

The strike showed considerably more strength and unity than expected. Although the union claimed only 1,100 members among Honeywell's 1,500 professional workers, daily counts by the local indicated that only about 135 to 158 of the nonunion 400 passed through picket lines. More than sympathy with union strike goals was behind this nonunion support; the local warned, in advance, of a policy of "social isolation" for nonstrikers-there would be no reprisals on the job but on the social level, it said, unionists would "choose our own friends, whom we ride with in auto pools and with whom we have our lunch."

· Discord-Despite this solidarity, and union claims that its strike was causing bottlenecks at inspection points in the Honeywell operations, officers of the engineers union last weekend recom-mended that the local call it quits and return to work on management terms.

The proposal came as a general surprise. A substantial union bloc pleaded for at least another week of strike "so we can make this walkout effective." The local membership rejected their plea 505-to-239 when the union leadership criticized what it called the minority's "emotionalism." Union officers said the purpose of the strike had been achieved through a strong demonstration of dissatisfaction against the company's "inflexible, intransigent at-

titude" against the union.

New Blood—There is little doubt that the walkout actually was more demonstration than strike. After a 1954 acceptance of a "take it or leave it" offer from Honeywell, the engineers union went downhill pretty fast—only a maintenance-of-membership clause kept it from probable dissolution. The president resigned. For a time the union floundered about, without any leadership. Finally, it hired Everett Taft, a veteran unionist with professional and technical background and Sperry strike-leading experience, as president.

Under Taft, the union was rebuilt and pointed toward a strike this year, if necessary, to demonstrate to the company that it must in the future deal with the union "in good faith." Honeywell's position in the past has been that the work of professional employees is essentially creative and cannot be measured and pay scales negotiated in the same way as for factory workers.

Whether this leadership view of the one-week strike as a "demonstration" victory will be accepted by the minority who wanted to press on for bigger contract gains is a matter of speculation in Minneapolis. There is dissatisfaction again, although it's not so rampant as in 1954. There is speculation, too, that the failure of Local 1145 and Minneapolis' powerful AFL central body to recognize the walkout might result in the engineers affiliating, within a year, with a major labor federation. Taft has already announced that this "will come up for intensive study" in the next few months.



HOTEL PICKETING in Miami Beach is the latest sign of Southern labor ferment.

Behind the Dixie Strikes

Unions charge concerted drive by employers to balk organization. The trouble now is focused on Miami Beach hotels as AFL charges "strikebreaking" by operators.

Two stubbornly contested strikes ended officially in the South this week —but national attention quickly centered on another as unions renewed charges of "a concerted effort" to block unionization of Southern industrial workers.

Shortly after a long, often violent strike ended against Southern Beli Telephone & Telegraph Co. and a contract was signed in the dispute between the Louisville & Nashville RR and its union, the AFL demanded that the Senate probe "startling developments" in a strike against Miami Beach hotels.

The federation's president, George Meany, charged that workers who have been "shockingly exploited" through the years are now being denied "their right to organize into a union." Hotels, he said, have "combined in a tight association . . . and raised a large fund" to break a six-week strike and bar union gains.

• A Pattern-Labor charges of concerted action against organizing in the



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See Clues on page 198



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ROURA IRON WORKS, INC. 1407 Woodland Ave., Detroit 11, Michigan South are heard increasingly. Unions profess to see a pattern in strong employer resistance to contract demands or to organizing below the Mason and Dixon Line. They also say they know the reasen for it: the imminence of the strongest campaign waged yet for union membership in the South-already in the planning stage and only awaiting the merger of AFL and CIO.

Successive organizing drives that started with CIO's Operation Dixie in 1944 and 1945 have produced comparatively few lasting gains. Organizers complain they must spend more time "protecting" membership already on the books than in extending unionism. Latest figures show that, despite some strong union centers, the South as a whole is only 15% to 20% unionized. It's the last big frontier for organizing.

For that reason, AFL-CIO unity negotiators earlier this year announced that one of the merged federation's first goals would be an intensive effort to extend unionism into the South. Walter Reuther—who may head the drive personally—got his United Auto Workers (CIO) to pledge \$1.5-million to the campaign, provided other unions ante up proportionately.

• Arguments—There is no objective indication that the increased resistance to unions in the South since then is connected with the prospect of a new organizing drive. The unions, however, charge there is a connection, even if only a tenuous psychological one.

They reason this way:

 Long strikes for compromise contract gains, or settlements on company terms without strikes, will inevitably have a retarding effect on organizing among Southern nonunion workers.

 Resistance to organizing in key areas, such as that in Miami Beach now, may lead to setbacks while unions are more vulnerable than they are likely to be later—and could mean a quick damming of potential gains.

These are the factors that unions claim are behind industrial relations troubles widespread in the South so far this year. Federal officials see no new collaboration against encroaching unionism, but rather a ferment similar in nature to that in other regions as unions and managements clashed in a period of expanding organization.

The attendant violence—deaths, assaults, and hundreds of thousands of dollars of property damage in telephone and rail strikes—disturb Washington officialdom more as a recurrence of events of the 1930s in other areas than as something new.

Currently, attention is focused on the Miami Beach strike, which has resulted in official AFL complaints of "imported strikebreakers . . . from Puerto Rico and rural communities" and of a "legal no man's land" that denies hotel workers protection for union activities.

• Background—AFL's Hotel & Restaurant Employees & Bartenders International Union, under the leadership of a new president, Ed Miller, moved in January to organize an estimated 30,000 to 40,000 hotel workers in the Miami Beach area. Miller warned that it would mean "the biggest battle we have faced in 20 years."

To carry it on, the union "drafted" the president of its strongest local in New York City, David Herman, along with personnel from as far afield as Los Angeles. It retained former Gov. Fuller Warren of Florida as a legal aide and, in late February, as luxury hotels' employment dropped for a between-seasons lull, the union blitz began.

According to the union, it got immediate acceptance among employees, but the managements flatly refused to recognize the union as bargaining agent. Under Florida law, a union must represent 51% or more of a company's employees in order to claim representation rights-but there is no machinery for determining whether it does. The employers demanded that the union prove its claim by listing the names of its members in the hotels. The union refused: it contended that its members, excluded from Taft-Hartley law protection for union activities, could be discharged.

• Picketing—Beginning in mid-April, the union began striking the big playground hotels, two or three at a time. At one time 12 were being picketed. Since then, legal maneuvering has cut into the number, through injunctions, but the union reported early this week that its walkout was "tight" and "definitely hurting" the hotels even though they have been able to stay open.

Organizing is still going on. Eventually it may involve almost all the 30 major Miami Beach hotels in strikes, and by the end of this week it could bring walkouts against a number of Biscayne Boulevard hotels in Miami proper. Strike action threatened to cross Biscayne Bay last weekend, but the union deferred a showdown in Miami, at the urging of Mayor Abe Aronovitz, until after a Florida Elks convention.

• Look to Courts—No quick end to the walkouts appeared likely this week. The hotel's biggest hope lies in a suit to stop picketing, docketed for Florida's Supreme Court in mid-June. The court ruled in a somewhat similar case that a union must clearly establish that it represents a majority of an employer's workers before it can picket him.

The union pins its hopes on the fact that Miami Beach's "economy vacation" season begins in June and normally keeps hotels busy in July and August. The union believes that if it can maintain its strike lines for just



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WORTHINGTON



Climate Engineers to Industry, Business and the Home

a few more weeks, pressure for a surrender by hotel operators will mount. Businessmen operating in the beach area already are complaining of a "pinch" in business, and say that even a 10% drop in summer business could

"scriously affect" all resort business.

• Significance—The Miami Beach hotel strike has more significance than first meets the eyes. The hotel business is the area's largest industry, and—until the present drive—was almost entirely nonunion. Once it's organized, unions plan to press drives among retail clerks, restaurant workers, and others among a potential 50,000 (between 40% and 50%) unorganized workers.

For the Hotel & Restaurant Employees & Bartenders, there is this additional significance in the Miami Beach drive: Nationally, resort hotel workers are largely nonunion, because jobs are seasonal and workers are migratory; if Miami Beach can be unionized, Miller says, other resorts will be tackled, one at a time, with organizers "following the seasons" to Saranac, Sun Valley, and other popular resorts.

LABOR BRIEFS

No reopening of the United Mine Workers' coal contracts appears likely soon, a UMW spokesman said last weekend. The industry shows signs of pulling out of its deep decline. Output is rising, Many mines are again working five or six days a week, particularly in the South, due largely to increases in coal export. But, the UMW spokesman said, "conditions in the industry" haven't improved sufficiently—yet—to warrant demands for the miners' first pay boost since 1952.

Jobless-pay laws have been revised in at least 18 states so far, but-despite labor's urging-no state has amended its statute to make possible both unemployment pay and GAW benefits for idle workers. Three proposals that would have done so died in committee in Ohio, Missouri, and Maryland. Oregon tightened, rather than eased, its bars against supplemental pay for idle.

A heart attack suffered at a race track by a business executive in off-duty hours shouldn't be considered proper grounds for workmen's compensation, the Appellate Div. of the New York Supreme Court ruled (3-2) recently. The decision reversed one by the State Workmen's Compensation Board, which allowed the executive \$32 aweek benefits after the executive contended (1) he was at the track entertaining a company client, and (2) the attack was caused by the strains and pressures of his work.

Ban on Union Politicking

Labor fears Wisconsin's law on direct political aid may set off new drive . . . Reuther "demands" investments in social projects . . . Equal pay drive backfires.

Labor's legislative strategists are warning unions that a new concerted drive is on in state legislatures to curb union political activities—in the same way that union-shop contracts have been barred by "ight to god?" lows

by "right-to-work" laws.

So far, only Wisconsin has passed what labor criticizes as a "gag law," forbidding political contributions by unions and barring any direct political action by unions in state campaigns. Sponsors of the Wisconsin bill say that it simply recognizes that labor "has come of age," and brings unions under a law that already bars political contributions by corporations.

Advocates of the new law also say that labor "brought it unto yourselves" by "consistently [conducting] your political maneuvers on a one-sided basis," for the Democrats.

If it were only Wisconsin that had moved to bar or curb union politics, labor's concern wouldn't be so great. However, other proposals similar in nature popped up almost simultane-

ously in Michigan, Ohio, and Indiana.

To the unions, the emergence of similar restrictive proposals in four states was all too reminiscent of the way "right-to-work" lawmaking started in the late 1940s. From a small beginning, that campaign has spread until 18 states now have laws barring union shop contracts. Unions say that there's "every likelihood" that proposals to "end the workers' voice in politics" will spread similarly.

The chances of this happening in 1955 are slim. Half of the 44 legislatures scheduled to meet in 1955 have already adjourned, most of the others are in the final weeks of their sessions.

Welfare funds amassed under labormanagement contracts should be used to finance "socially-beneficial" projects, Walter Reuther, CIO and United Auto Workers' president, told the Executives' Club of Chicago. Reuther stressed the possible use of welfare fund reserves for investments in "much needed" housing projects.

The UAW proposal—which Reuther called a "demand" to be made on management—caused a new stir in financial circles, where present and potential uses of welfare funds are considered an important problem. And it brought new talk of labor's—and particularly CIO's—program of "creeping socialism."

However, Reuther's idea isn't new. In New York, both AFL's International Ladies' Garment Workers' Union and CIO's Amalgamated Clothing Workers of America have helped finance large housing projects through welfare funds.

Labor's drive for equal pay for equal work, aimed at giving women the same wage rates as men, has backfired, a field representative told CIO's United Packinghouse Workers.

One time, women in the meatpacking industry received 11¢ an hour less than men doing comparable work. UPW has sought equal pay for years, and has succeeded in cutting the differential to 314

ferential to 31¢.

But UPW officers have come up against an unexpected problem. The hiring of women for many packing-house jobs is now off sharply. Companies are hiring men instead of women because the pay differential is so small now and because of the prospect of its eventual elimination.

The coming merger of Canadian labor federations affiliated with AFL and CIO confronts Quebec's Roman Catholic union movement with serious questions of future policy.

For years, the Canadian & Catholic Confederation of Labor has kept aloof from labor bodies allied with AFL and CIO. It is made up of "national syndicates" based on the social doctrine of the Roman Catholic Church. While these "syndicates" function in collective bargaining and employee representation in the same way as any union, their religious basis is of major importance (although non-Catholics are admitted to membership) and so, their constitutional structure is different from AFL or CIO affiliates.

A few weeks ago, the Trades & Labor Congress (AFL) and Canadian Congress of Labor (CIO) announced plans for a merger early in 1956. This will leave the 100,000-member CCCL even more isolated than it is now.

What to do about this will be a major question on the agenda for CCCL's next convention, in Montreal in September. Current thinking is that there is little or no likelihood of the Catholic organization merging into the new CCL.

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Previous editorials in this special series have shown that:

- 1. Our colleges and universities, and particularly the independent, privately endowed institutions, are in grave financial difficulties.
- These difficulties promise to become much more acute in the years immediately ahead unless extraordinary steps are taken to relieve them.
- A financially crippled system of higher education is a major national menace.

If, however, the business community is to play an adequate part in helping our colleges and universities financially, the plans adopted by business firms thus far constitute merely a beginning and a set of guide posts. What is required is a general movement on the part of business firms to go to the financial aid of higher education. Such a movement would involve a myriad of individual company plans which, in the nature of the case, cannot be expected to bring great renown or publicity to their sponsors.

Rescue Operation Is Feasible

For the business community as a whole it is feasible to make a major and possibly a decisive contribution to putting our colleges and universities back on their feet financially. One percent of business profits before taxes would do it. In 1954 business profits before taxes were about \$35 billion. If one percent of these profits, or \$350 million, were contributed to our independent, privately endowed colleges and universities it would enable these institutions (1) to increase the salaries they pay by \$200 million a year, and (2) to provide \$150 million more for modernization and maintenance of their establishments. In the opinion of competent authorities, this would put these institutions in relatively good working order financially, a process to which a matching grant of \$50 million by the Ford Foundation for the improvement of faculty salaries will make a large contribution. It would add about one-fourth to their present annual outlay of about \$1.4 billion.

Such a contribution from business would not meet the needs of the independent institutions for new buildings and equipment required to accommodate the great increase in college enrollment anticipated in the years immediately ahead. Neither would it relieve the financial problems of our tax-supported colleges and universities. As a group these institutions have fared better financially in recent years than the independent institutions. But they also face grave financial problems, particularly in the provision of adequate faculty salaries. It would be far simpler, however, to solve the financial problems of the tax-supported institutions if the independent colleges and universities were back on their feet financially.

One Dollar Does Work of Two

The federal government exempts 5 percent of business profits from the tax imposed upon them if the 5 percent is devoted to religious, charitable or educational purposes. (Most profits are taxed 52 percent.) A contribution of one percent of business profits to higher educational institutions would exhaust only one-fifth of this allowance. It would bring to about two percent the total share of business profits going to both educational and charitable purposes.

In 1953, business firms contributed about \$400 million, or slightly more than one percent of profits before taxes to educational and charitable purposes of all kinds. Of this total about \$75 million went to educational institutions,

mostly colleges and universities.

For some companies it is feasible to contribute more than the average contributed by business generally. Indeed, some companies not only utilize their full 5 percent of tax-deductible funds for charitable and educational purposes but go beyond it. For other companies in financial difficulties no contribution at all is

possible.

If, however, those business firms for which it is financially feasible contributed one percent of their profits before taxes to our colleges and universities, the problem of adequate support for the crucially important business of higher education would be far along the way to successful solution. In 1954 a contribution of one percent of their profits before taxes, or about \$350 million, would have reduced business profits after taxes by only about half that amount. This would have meant a reduction of about \$175 million, out of a total of about \$17.8 billion of profits after taxes.

Attractive plans to channel financial aid from business to higher education have been abundantly demonstrated recently. These plans, for the most part the creation of large corporations, have included not only a broad array of scholarship grants, but such ingenious arrangements as that by which a company matches with its funds the gifts its employees make to the colleges of which they are alumni.

A full array of these plans, some of which were discussed in an earlier editorial in this series, has been prepared by The Council for Financial Aid to Education (6 East 45th Street, New York City 17) and is available for the asking. Also, colleges and universities have established in most states and regions cooperative associations to help business help them. The Commission on Colleges and Industry (912 Kahn Building, Indianapolis 4, Indiana) distributes a directory of these associations. And, of course, the colleges themselves are always eager to discuss their financial problems with business people and suggest constructive solutions.

Only Small Start Made

The plans for business aid to education which have recently attracted national attention constitute the conspicuous sort of leadership which it is the privilege and opportunity of our great corporations to provide. But the job is too large to be handled by a small number of business firms, no matter how bold or ingenious their programs.

To put our colleges and universities back on a firm footing financially the help of the great rank and file of business corporations is required. All of them, large and small, have a crucial stake in seeing that this job is done. The future of America will be decisively shaped by what happens in and to our college classrooms.

This message is one of a series prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nationwide developments that are of particular concern to the business and projessional community served by our industrial and technical publications.

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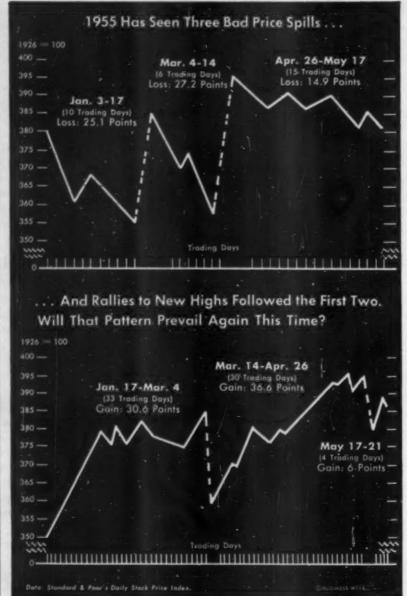
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How Strong Is This Rally?

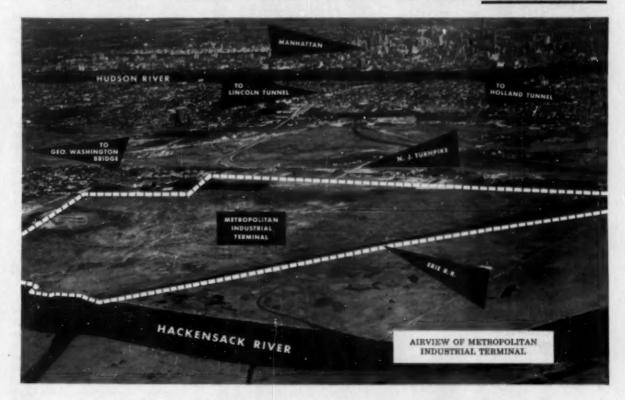
chipper. Last week, the third major sell-off of 1955 finally petered out, and stocks generally began to rally, some of them quite sharply.

But plenty of fingers remained crossed, as Streeters wondered whether the new rally was only temporary, or would develop the staying power of the year's two earlier comebacks from price weakness. Those two, as the charts above show, both sent prices generally

Wall Street is feeling a bit more kiting to new bull market highs. The more bearish of the bulls are

convinced that this rally will have as much stamina as the earlier pair. Other factors aside, they argue that the time is here for the traditional summer rally to begin. And they see no reason why this seasonal pattern should be broken in a year when business, sales, and earnings are all pressing close to the ceiling.
Weaker Start-On the other hand,

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SOLD BY LUMBER DEALERS EVERYWHERE

the normally sore-pawed bears are reinforced by others less gloomy in asserting that it's silly to be so sanguine now. They point out that this rally has much less early-stage vigor than its predecessors showed. The nine-point gain scored in its first three days by Standard & Poor's daily industrial stock price index was cut in half by profit-taking in the two days that followed.

Moreover, trading volume has stayed low, sinking to 1.6-million shares on the Big Board last Tuesday. That's the smallest total since Oct. 12, the Colum-

bus Day bank holiday.

The prophets of caution likewise urge that certain long-term uncertainties be kept in mind despite the present high levels of business:

• They find some indications that second-half 1955 may not live up to

gaudy predictions.

 They note that the new drift of the world toward peace is beginning to color the outlook for both business and the market.

• Bumpy Road—This second consideration is getting especially serious consideration by Streeters. The market recognizes that peace per se is bullish, but it also feels that the transition from cold war to peace could be a rather bumpy process, especially in the light of much current market psychol-

As Moody's Stock Survey says this week: "Lately, many investors have been drawn into the self-delusion that they can forever profit simultaneously from the dangers of war and the benefits of peace." Thus "some readjustments in recent investment concepts are inevitable if . . . a basic change of world trends is in the making."

Fulbright Group Splits Four Ways

Democrats on committee investigating market assail role of speculation. Republicans variously dissent.

The whooped-up Fulbright investigation of the stock market ended up just about nowhere this week, with the Senate Banking & Currency Committee split on partisan lines.

The eight Democrats signed a majority report that in effect pointed a finger at the role of "unhealthy" speculation in the market rise, found no serious dangers to the economy, and made a few specific recommendations.

Four of the seven Republicans signed a minority report berating the whole investigation on the grounds that it had no right to make a broad study of the economy but should have limited itself to seeking signs of skulduggery in the market. Bellwether of this group was Sen. Home Capehart, who had attacked the committee hearings all the time they were being held.

The other three Republicans—and this might indicate that the partisan split wasn't quite as deep as it seemed—refused to go along with the Capehart group, and even expressed approval for a good part of the majority report. This trio—including Payne of Maine, Ives of New York, and Bush of Connecticut—expressly agreed with the majority view that healthy bullish days lie ahead for both the stock market and for business generally.

for business generally.

Four of the eight Democrats who signed the majority report announced that they thought it should go further than it did in criticizing the Federal Reserve Board. They said the board cut margin requirements unwisely in 1953 and was timid about raising them again this year.

• Confidence-The three middle of the road Republicans departed from the

majority only in the belief that the Democrats had not given enough weight to the role of public confidence in the Eisenhower Administration as a factor in the rise of stock prices. But they agreed that speculation, too, had played a part.

Even the irreconcilables of the Capehart group found common ground with the majority and with their own colleagues on three points. Everyone

agreed that:

A law should be passed extending to over-the-counter stock sales the same regulations that cover stocks listed on the national exchanges. Fulbright has already introduced a bill to this effect (page 52).

Speculation in "penny" stocks

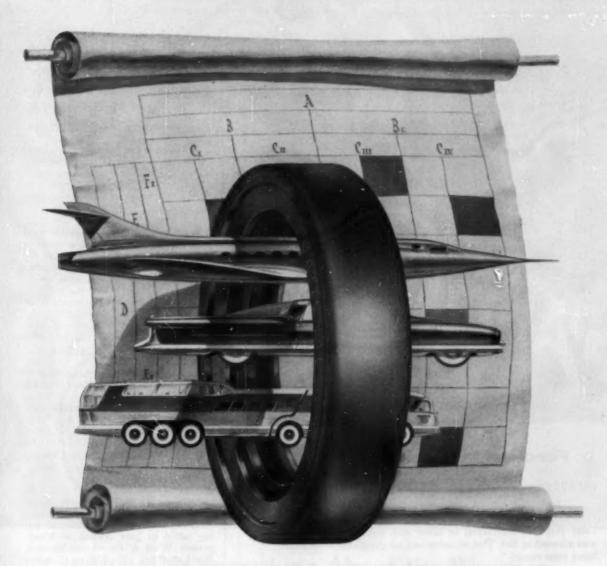
should be curbed.

 Abuses in the sale of Canadian securities to U.S. citizens should be checked.

As for the majority report, it was generally mild in tone. After deprecating the stock market as a barometer of general conditions, and deploring the effect of speculation in the present rise, the report went on to specific points.

• It said that there was evidence that some bankers had been lax in making "non-purpose" loans—that is, loans not for a specific purpose, and perhaps to be used for speculation. Banking authorities were urged to take positive steps to establish to what extent borrowers are diverting credit into speculative channels.

 On margin and short-term trading, the majority concluded that conditions last January warranted "more vigorous action to curb stock market credit by the Federal Reserve Board."



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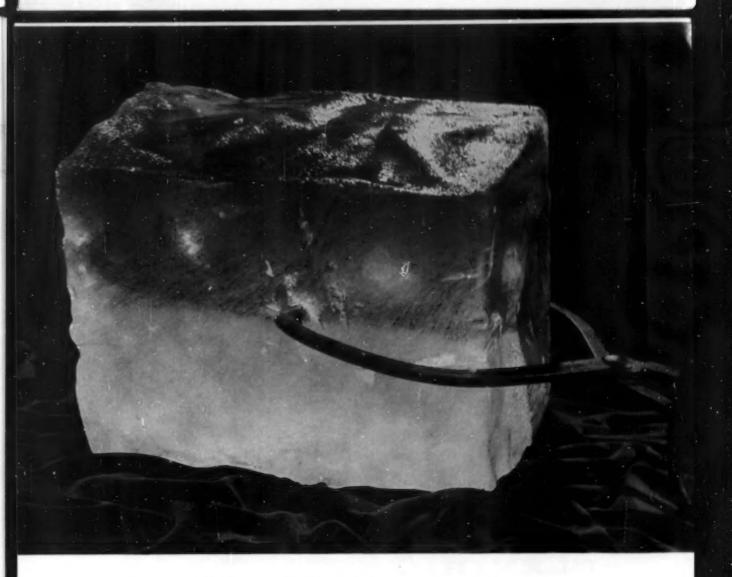
What securities are the best buys? Here's the opinion of one prominent investor, heavyweight champion Rocky Marciano: "I've made money," the champ reports, "and I've put it in highway bonds and such."

Keep an eye on the municipal bond market. The yield indexes have moved only sidewise lately, but business apparently isn't so good as they indicate. Only 44% of last week's new offerings was actually sold at retail, one smart dealer reports. He says that all of them were high-grade issues but the prices asked, were too rich for most important buyers. Thus, he looks for some sharp price adjusting soon, particularly if the market begins to receive much of the flood of impending new toll road issues (BW--May21'55,p62).

There's plenty of "investment" money still around if you dig. SEC chairman-designate J. Sinclair Armstrong says that in a single recent week residents of one small town bought \$15,000 of Canadian penny stocks, mostly uraniums.

Are the Louis E. Wolfson supporters personally stuck with the cost (rumored to exceed \$500,000) of their recent losing battle to gain control of Montgomery Ward & Co. Most Streeters think they are. Wolfson said earlier that, if he won, he would ask Ward stockholders at their 1956 meeting to approve company payment of his war costs. But few now think he could muster up the majority vote needed to turn that trick, even if he asked for reimbursement on the grounds that his fight had helped to unseat Sewell Avery.

Market letter gleanings: "We remain bullish on the outlook for business and bullish on the outlook for equities . . . but regardless of how sanguine one may be, stock market interruptions, sudden and sharp, are inevitable." (R. E. Samuels & Co.) . . . "I expect the strong pattern of seasonal upturn during the summer months to be duplicated in 1955." (Josephthal & Co.) . "My belief is that the Dow-Jones industrial average (now 420) will reach 600 in 1958-1960. For new purchases, would stress defensive qualities rather than appreciation prospects" (Walston & Co.1.



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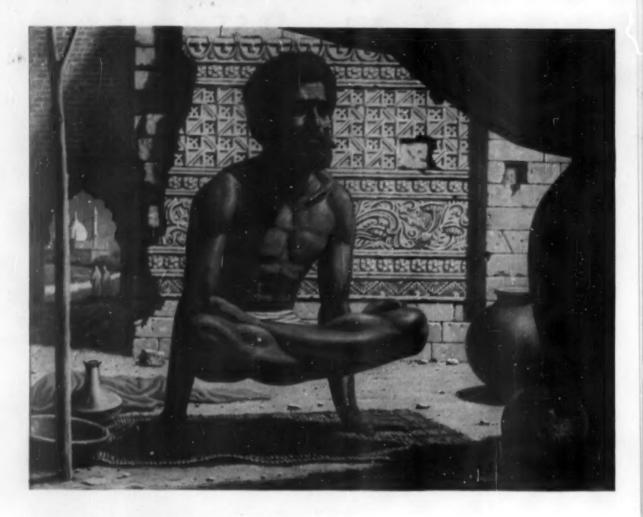
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Source: Publishers Information Bureau Analysis, 1954



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PERSONAL BUSINESS

BUSINESS WEEK MAY 28, 1955 People tend to be more careless about their personal health during the summer than in winter. This is a big mistake. Lack of caution can lead to a variety of ailments that not only will curtail summer fun but can harm general health.



One big danger—especially for desk-bound executives—is overexercise in the high summer heat. It's a lot easier than you may think to become the victim of a sunstroke or heat prostration. Either may occur during the night, as well as in the daytime.

Heat prostration is characterized by weakness, headache, blurred vision, mild muscular cramps, or irritability. Resting in a cool place and drinking salt water or eating salt tablets should help you recover quickly.

A sunstroke is a much more serious matter. Skin becomes hot, dry, and flushed; you'll probably experience a feeling of weakness, headache, dizziness, nausea, or pain over the heart and stomach. Call a doctor immediately, and in the meantime remain cool and quiet.

You're likely to hear of more cases of heart failure in the summertime. Like heat prostration and sunstroke, this can usually be traced to overexertion and too much exercise. Victims are usually people whose blood pressure is higher than it should be.

The development of new drugs that assure better blood pressure control and protection against heart attacks won't be of much help if activities aren't planned carefully. Remember, 52% of all U.S. deaths are from heart disease, and 40% of these are cases of hypertension.

Poison ivy is one of the most common and irritating of all summer allments. But remedies have been developed in recent years which have been effective in its relief. The newest and most successful of these is Zirnox—a combination of a potent antihistaminic and hydrous zirconium oxide in lotion form. It's widely available for the first time this year.

The best treatment for poison ivy is still the oldest: Stay away from it. And the best way to do this is to learn the plant's characteristics—such as where it grows and what it looks like.

If you've never had poison ivy, don't be fooled in thinking you are immune. People can become allergic to it after years of "immunity." And, if you've already had poison ivy, don't think you've developed an immunity—this just doesn't happen.

Be careful how you acquire your summer tan. If you try to get it all in one day you'll suffer from sunburn, which, repeated over a period of years, is likely to lead to the development of skin cancer. Expose yourself gradually to the sun's rays. For a fair, sensitive skin that doesn't tan, use a protective cream to prevent burning.

For hay fever sufferers, the development of a new drug, Biomydrin, which gives definite relief for this allergy, should be good news. One dose of Biomydrin, which you use in spray form, gives approximately four hours comfort. Experts say that hay fever sufferers can use the new drug as often as necessary with no effects of habituation or addiction.

PERSONAL BUSINESS (Continued)

MAY 28, 1955

Athlete's foot, most prevalent during the summer, can best be prevented by careful drying of the feet and toes and use of talcum powder after bathing.

Watch your eating habits. Infrequent and haphazard eating in hot weather may cause gastric upsets, sometimes of a serious nature. Irregular eating and unbalanced meals may arouse dormant ulcers. If this happens, see your doctor immediately.

Food that has been inadequately refrigerated or is contaminated is likely to cause food poisoning. A recently developed remedy for this is kectil, a combination of antibiotics and sulfa.

There will be more talk about safety belts in automobiles. Chrysler's recent announcement that it will sell a seat-belt "package" as extra equipment (BW—Apr.30'55,p34) is just the beginning.

How effective is a seat belt in preventing injury in an auto crash? Up to 30 or 40 mph., it will keep the occupant from being hurled out of the car, help prevent his body from hitting inside projections. Above those speeds, it won't always do that.

A big drawback of the seat belt is that it tends to jack-knife the wearer and throw his head forward. And the head is the most susceptible part of the body to injury.

Auto designers recognize this. That's why—even in the absence of seat belts—you see more and more flat surfaces on and above the dash. Studies show that the head can survive serious injury if it hits a flat surface that will dent.

Chief value of seat belts is to protect kids against sudden traffic stops. That's particularly true in view of the fact that safety people say that the most serious accidents happen on short auto rides—trips to the grocery store and the like—which your wife would be taking with the children.

A new Winchester rifle, called the Model 88, is said to be the world's first rifle to combine the rapid fire of lever action with the power and accuracy of a bolt action. It has a rotating front-locking bolt, a one-piece stock, and side ejection to permit low mounting of a scope.

The Model 88 takes the Winchester 308 cartridge, which is similar to the 30-06. Bullets of 110, 150, and 180 grain are available. The gun weighs 61/2 lb., sells for around \$125.

Surgery patients may no longer have to worry about after-effects of anesthetics. Chas. Pfizer & Co., Inc., announced this week that it has developed a new anesthetic, viadril, from the steroids, which are a source of hormones. It is said to be completely free of side-effects, is easier and safer to use than other anesthetics.

Manners and modes: A new wrist watch has "indirect lighting." Luminous hands are fluorescent on the under side only. . . . Two out of three U.S. cars today have radios, compared with one out of three in 1941 Housewives made up the largest single group going to Europe last year. There were twice as many of them as any other group.

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MANAGEMENT

TOP COMPANIES: What's Happened to Exec

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1950 Charles E. Wilson, pres. \$626,300



1954 Harlew H. Curtice, pres. \$686,000

STANDARD OIL CO. (N.J.)



1950 Eugene Holman, pres. \$186,013



1954 M. J. Rathbone, pres. \$163,357

BELL SYSTEM



1950 Leroy A. Wilson, pres. \$159,861



954 Clee F. Craig, pres. \$206,800

Boosts Here, Cuts There Add

GENERAL ELECTRIC CO.



1950 Charles E. Wilson, pres. \$280,234



SWIFT & CO.



1950 John Holmes, pres. \$100,000

1954



John Holmes, pres. \$125,000

CHRYSLER CORP.



1950 L. L. Colbert, pres. \$207,433



1954 L. L. Colbert, pres. \$250,000 uta: Securities & Exchange Commission.

ives and Their Pay Since 1950





Up to Modest Gain

The men pictured on these pages are the chief executives of eight of the 10 leading companies in the \$1-billiona-year sales club (omitting Ford Motor Co. and A&P, for which figures were not available). What happened to them and to their compensation between 1950 and 1954 is a capsule version of the over-all story in BUSINESS WEEK'S annual roundup of executive pay.

Here's the change you find in the over-all picture in the four years:

• The rise in average pay for jobs in the highest paid group in each of 112 companies has been surprisingly small—only about \$9,000. In 1950, the average pay of top officers (including bonuses as well as salaries) was \$165,821, against \$175,045 last year.

• Even so, there are more \$100,000 and \$200,000-a-year men. And last year, 11 companies paid compensation in the \$300,000-and-above bracket, against eight in 1950.

About two-thirds of the companies boosted the compensation of their top officers. The average hike was 21.5%—from \$144,432 to \$175,544. Not all companies treated their

top executives so lavishly-some big increases raised the average.

Balance—Two things kept the average level down. One was a shift in top personnel; about one-third of the companies, for example, had different presidents in 1954 as compared to 1950. A new man often doesn't get as much as his predecessor.

What's more, in a number of key industries and companies there were significant pay cuts, as far as straight salaries go. Farm machinery, electrical manufacturing and appliances, retail chains, and textiles were standouts.

• Top Men—Still at the top individually—\$200,000 ahead of any other—was Pres. Harlow H. Curtice of General Motors Corp. Behind him, Eugene G. Grace of Bethlehem Steel Corp. moved into second place (\$590,815), followed by Crawford H. Greenewalt of E. I. du Pont de Nemours; Samuel Bronfinan of Seagrams; and Edward H. Little of Colgate-Palmolive.

• Downs and Ups—You can explain the cuts and the small net gain this way. Executive pay is often tied to sales or profits; 1950 was booming, but for many companies 1954 was one of



the poorest postwar years. On the other hand, the review doesn't cover fringe benefits nor mushrooming stock option plans. But again on the down side, a man making \$100,000, with a wife and one child and taking standard deductions, had "take-home" of \$53,000 in 1950, \$48,000 in 1954.

AGRIC	ULTURAL	MACHIN	IERY	
			1954	1950
	Salary	Renus	Yatal	Total
ALLIS-CHALMERS MPG. CO.	*102 464		\$103,646	\$ 79,2831
"W. A. Roberts, pres R. S. Sievenson, ex. v.p			68,666	\$ 78,2831
J. L. Singleton, v.p			52,483	-
J. L. Singleton, v.p *Decassed. †Pold to Walter Goldt, d	occupad.			
INTERNATIONAL HARVESTER				
John L. McCallrey, pres		\$ 33,000	\$145,400	\$178,698*
Peter V. Moulder, ex. v.p Christian E. Jarchew, v.p	73,410	19,800	94,840	
*lactudes \$16,648 pension fund pays		17,500	00,210	
DEERE & CO.				
Burton F. Peek, chm,			\$73,052	\$78,516
Ches, D. Wimon, pros	67,200		67,200	81,895
Wm, A. Hewill, ex. v.p *C. N. Stene, vice-president.	48,774		48,774	78,516*
AIRCRAFT MAN	UFACTUR	NG A C	OMPONE	NTS
DOUGLAS AIRCRAFT CO.				
Donald W. Douglas, pres			\$158,425	\$131,379* 54,543**
F. W. Conant, sea, v.p	105,816		74,091	34,343**
Artisur E. Raymond v.p	**includes \$3,	788 pension pe		
LOCKHEED AIRCRAFT CORP.				
Robert E. Gross, pres		-	\$143,221	
Courtlandt S. Gross, ex. v.p.			104,754	
C. A. Barker Jr., v.p	113,226*	1 122 972	113,226 polively.	
UNITED AIRCRAFT CORP.				
H. M. Horner, pres	\$185,750		\$185,750	\$156.528*
Frederick B. Rentschlor, chm.		***	126,350	102,450
Wm. R. Robbins, v.p	111,409		111,409	
Leonard S. Hobbs, v.p *Includes pension payment of \$3,296	140,400		140,400	
	AIRLD			
UNITED AIR LINES, INC.	AIRLI	AES		
Wm. A. Potterson, pros	\$100,000		\$100,000	\$78.425*
J. A. Herlihy, v.p	44,000		44,000	45,783°
Otis E. Kiine, v.e *Includes \$6,597 and \$3,222 penales			45,000	
		ectively,		
TRANS WORLD AIRLINES, INC				
R. S. Damon, pres	73,924	\$ 18,035 15,913	\$103,934 89,837	\$ 94,348 74,995
John A. Collings, ex. v.p	48,700	12,548	61,248	53,417
AMERICAN AIRLINES, INC.	10,00	10,010	01,230	33/417
C. R. Smith, pres	\$ 73,185		\$ 73,185	-
Wm. J. Hogan, sen. v.p	47,707		47,707	
C. W. Jacob, v.p	47,707		47,707	
	APPAI	PRE		
CLUETT, PEABODY & CO.				
Berry T. Leithead, pros	\$105,443		\$105,443	\$ 95.183*
Robert M. Dewling, v.n	52.350	-	52,359	
Robert L. Palmer, v.p *Includes \$1,396 pension fund paym	51,061		51,061	-
	and,			
MART, SCHAFFNER & MARX Meyer Kestnboum, pres	\$100,000	1	\$100,000	\$100,076*
John D. Gray, v.p	54,580	-	54,580	4100,076
Marris Greenberg, v.p *Includes \$4,976 and \$2,657 pension	50,000		50,000	49,657°
*Includes \$4,974 and \$2,657 pateins	fund payment,	respectively.		110000
	AUTO P	ARTS		
BENDIX AVIATION CORP. (Yes				
M. P. Ferguson, pres	\$140,349		\$140,349	
Charles Marcus, v.p	88,950	-	88,950	-
BORG-WARNER CORP.				
C. S. Davis, chm		40.000	\$ 72,900	\$112,374
R. C. Ingersell, pres Mathew Keck, v.p	33,000	60,000	144,101	132,114**
"includes death payments to widow;		an payment; *	33,000 **peid to H. E.	72,200° ° °
THOMPSON PRODUCTS, INC.				
F. C. Crawford, chm	\$159,900		\$1.59,800	\$173,062°
J. D. Wright, pres	146,100	1322	344 100	(as pros.)
			144,100	97,755° (m v.p.)
J. H. Coolidge, v.p.	88,200		88,200	97,527*
*Includes \$21,962, \$6,356, and \$11	, 227 INCOMES A	spinement heat'	respectively,	

	AUTOM	OBILES	1 14	and the same
	Salary	Bengs	1954 Total	1950 Total
GENERAL MOTORS CORP.				
Harlow H. Curtice, pres		\$485,000*	\$684,000	\$626,300**
Albert Bradley, ez, v.p		435,000°	611,500	541,425
Frederic G. Donner, v.p	136,300	380'000°	522,033	441,000
"Peid to Charles E. Wilson, HRYSLER CORP.	*Payable in steel		installments.	441,070
K. T. Keller, chm			\$300,900	\$250,800
L. L. Colbert, pres	. 250,900		250,900	213,359*
James C. Zedar, v.p includes \$5,926 pension fund per	115,450 yment.		115,450	-
	AKING &	MILLING		
CONTINENTAL BAKING CO.	6 88 000		\$ 88,000	\$ 77,930*
R. N. Laughlin, pros Codric Soaman, v.p			48,200	4 // // 30
			45,400	
George Founce, Jr., v.p Paid to Raymond Stritzinger (Inclu	udes \$8,765 for 1	pension),		
ENERAL MILLS, INC. (Year			****	
Herry A. Bullis, chm		LET	\$118,000	\$100,000
Charles H. Bell, pres	. 108,000	-	92,000	100,000° 68,000
Walter R. Berry, v.p Paid to Leolie N. Perrin as preside	ent.		72,000	00,000
ATIONAL BISCUIT CO.				
Geo. H. Coppers, pres			\$126,800	\$109,867
Roy E. Tomlinson, chm	91,600		91,600	91,100
Edward S. Moore, Jr., ex. v.			73,400	****
ILLSBURY MILLS, INC. (Your				
Philip W. Pillsbury, chm.			\$ 87,893 101,415	44,601
R. J. Keith, v.p			49,514	
Howard W. Files, v.e	. 43,271			36,938**
Heward W. Files, v.p Pold to P. W. Pillsbury, Includi	ng pension payer	ent, as preciden	ili ""includes I	2,538 pension.
UNSHINE BISCUITS, INC.				
Henford Main, pres			\$100,000	\$ 85,000
M. G. Johaning, ex. v.p.,			65,000 54,000	60,000
R. H. Schust, v.p	. 34,000		34,000	
BE	VERAGES	& CAND		
OCA-COLA CO.				
H. B. Nicholson, pres			\$126,300	\$143,449*
Felix W. Coste, v.p Poid to Wm. J. Hobbs as presiden	. 70,000	4	70,000	-
BERSHEY CHOCOLATE CORP		o bearing below	entj.	
P. A. Staples, pres-chm			6 75,000	
J. J. Gallagher, sales mgn			40,000	
	III DINIG A	ATTRIBLE		
	UILDING I	MAIERIAL		
L. M. Cossidy, chm	. \$126,700	\$ 27,344	\$154,044	
A. R. Fisher, pres		21,875	123,175	
.s. GYPSUM CO.	No Paris			
C. H. Shover, chm	. \$100,000	-	\$100,000	\$ 45,000
	-			(as v.p.)
Oliver M. Knode, pres			90,000	88,233
H. F. Sadier, v.p				
	. 75,000		75,000	
RANE CO.				****
RANE CO. J. L. Holloway, pres	. \$114,600	-	\$114,400	\$110,600
J. L. Holloway, pres L. N. Blugerman, v.p	. \$114,600	==		\$110,600 55,000*
J. L. Holloway, pres L. N. Blugerman, v.p	. \$114,600 . 53,500	-	\$114,400	
RANE CO. J. L. Molloway, pres L. N. Blugerman, v.p rold to V. P. Rumely as vice presi	. \$114,600 . 53,500 dent.	-	\$114,400	
RANE CO. J. L. Holloway, pres L. N. Blugerman, v.p rold to V. P. Rumely as vice presi	. \$114,600 . 53,500 dent.	-	\$114,400	
RANE CO. J. L. Holloway, pres L. N. Blugerman, v.p Poid to V. P. Rumely as vice presi 1. DU PONT DE NEMOUR Crawford H. Greenewali,	\$114,600 53,500 dent. CHEMIC \$ & CO.	CALS	\$114,400 53,500	55,000*
RANE CO. J. L. Holloway, pres L. N. Blugerman, v.p Poid to V. P. Rumely as vice presi 1. DU PONT DE NEMOUR Crawford H. Groenewall, preschm	. \$114,600 . 53,500 deatl. CHEMIO \$ & CO. . \$169,036	CALS \$400,000	\$114,400 53,500	\$539,550
RANE CO. J. L. Holloway, pres L. N. Blugerman, v.p Poid to V. P. Rumely as vice presi L. DU PONT DE NEMOUR Crawford H. Groenewall, preschm Walter J. Beadle, v.p	. \$114,600 . 53,500 deat. CHEMIC \$ 4 CO. . \$169,056 . \$9,800	\$400,000 250,000	\$114,400 53,500 \$569,056 339,800	55,000*
RANE CO. J. L. Holloway, pres. L. N. Blugerman, v.p Pold to V. P. Rumely as vice presi 1. DU PONT DE NEMOUR Crawford H. Greenewall, preschm Walter J. Beadle, v.p Walter Dannenbaum, v.p	. \$114,600 . 53,500 dent. CHEMIC \$ 4 CO. . \$169,056 . 89,800 . 87,226	CALS \$400,000	\$114,400 53,500	\$539,550
RANE CO. J. L. Holloway, pres L. N. Blugerman, v.p roid to V. P. Rumely as vice presi 1. DU PONT DE NEMOUR Crawford H. Greenewall, preschm Walter J. Beadle, v.p Walter Dannenboum, v.p NION CARBIDE & CARBON	S114,600 53,500 dent. CHEMIC S & CO. . \$169,056 89,800 87,226	\$400,000 250,000	\$114,600 53,500 \$569,056 239,800 337,228	\$5,000*
RANE CO. J. L. Holloway, pres. L. N. Blugerman, v.p Pold to V. P. Rumely as vice presi 1. DU PONT DE NEMOUR Crawford H. Greenewall, preschm Walter J. Beadle, v.p Walter Dannenbaum, v.p	. \$114,400 . 53,500 dent. CHEMIN \$ & CO. . \$169,036 . \$9,800 . \$7,226 4 CORP. . \$225,000	\$400,000 250,000	\$114,400 53,500 \$569,056 339,800	\$539,550
RANE CO. J. L. Holloway, pres L. N. Blugerman, v.p Poid to V. P. Rumely as vice presi 1. DU PONT DE NEMOUR Crawford H. Greenewali, preschm Walter J. Beadle, v.p Walter Dannenboum, v.p NION CARBIDE & CARBON Morse G. Diel, pres Howard S. Bunn, v.p George O. Curme, Jr., v.p. George O. Curme, Jr., v.p.	S114,400 . 53,500 dent. CHEMIC S & CO. . \$169,036 . 89,800 . 87,226 4 CORP. . \$225,000 . 120,000 . 101,918**	\$400,000 230,000 230,000	\$114,600 53,300 \$569,056 339,800 337,226 \$225,000 120,000	\$539,550
RANE CO. J. L. Holloway, pres L. N. Blugerman, v.p Poid to V. F. Rumely as vice presi 1. DU PONT DE NEMOUR Crawford H. Greenewalt, preschm Walter J. Beadle, v.p Walter Dannenbaum, v.p NION CARBIDE & CARBON Morse G. Diel, pres Howard S. Bunn, v.p George O. Curme, Jr., v.p. Pald to fred Hoggersen as pre-	S114,600 . 53,500 dent. CHEMIN S & CO. . \$169,056 . \$9,800 . \$7,226 N CORP. . \$225,000 . 120,000 . 101,918**	\$400,000 230,000 230,000	\$114,600 53,300 \$569,056 339,800 337,226 \$225,000 120,000	\$539,550
RANE CO. J. L. Holloway, pres L. N. Blugerman, v.p Pold to V. P. Rumely as vice preside to V. P. Rumely as vice president to V. P. Rumely as v.p. Walter Dannenbaum, v.p. Walter Dannenbaum, v.p. NION CARBIDE & CARBON Marse G. Diel, pres Howard S. Bunn, v.p. George O. Curme, Jr., v.p. Pald to Fred Regeerse as president real Regerise as	. \$114,600 . \$3,500 dent. CHEMIII \$ & CO. . \$169,036 . \$7,226 V CORP. . \$225,000 . 120,000 . 101,918** sident (lactudas	\$400,000 230,000 230,000	\$114,600 53,500 \$569,056 339,800 337,226 \$225,000 101,918 molenil; **pirs	\$539,550 \$219,115° =- \$21,812 annuity
RANE CO. J. L. Holloway, pres. L. N. Blugerman, v.p. Pold to V. P. Rumely as vice presi J. DU PONT DE NEMOUR Crawford H. Greenewall, pres.—chm Walter J. Beadle, v.p. Wolter Dannenboum, v.p. NION CARBIDE & CARBON Marse G. Diel, pres. Howard S. Bune, v.p. George O. Curme, Jr., v.p. Author CHEMICAL & DYE C F. J. Emmerich, pres	S114,400 . 53,500 dent. CHEMIC \$ 4 CO. . \$169,056 . \$9,900 . \$7,226 \$ CORP. . \$225,000 . 120,000 . 101,918** sident (Includes ORP. . \$125,000	\$400,000 230,000 230,000	\$114,600 53,300 \$569,056 339,800 337,226 \$225,000 101,918 milen]; **pires	\$55,000° \$539,550 \$219,115° \$21,812 enewly \$125,000
RANE CO. J. L. Molloway, pres. L. N. Blugerman, v.p Poid to V. P. Rumely as vice presi 1. DU PONT DE NEMOUR Crawford H. Greenewall, preschm Walter J. Beadle, v.p Wolter Dannenboum, v.p NION CARBIDE & CARBON Marse G. Diel, pres Howard S. Bunn, v.p George O. Curme, jr., v.p. Pald to Fred Megeersen as pres ILLIED CHEMICAL & DYE C F. J. Emmerich, pres E. W. Clark, v.p E. W. Clark, v.p	S114,400 . 53,500 dent. CHEMIC \$ & CO. . \$169,036 . \$9,800 . \$7,226 4 CORP. . \$225,000 . 100,000 . 101,918** sident (lactudes ORP. . \$125,000 . \$125,000 . \$125,000	\$400,000 230,000 230,000	\$114,600 53,300 \$569,056 339,800 337,226 \$225,000 101,918 msicnly ""pires \$125,006 85,000	\$55,000* \$539,550 \$219,115* \$21,812 energy \$125,000 70,000*
RANE CO. J. L. Holloway, pres. L. N. Blugerman, v.p. Pold to V. P. Runely as vice presi 1. DU PONT DE NEMOUR Crawford H. Greenewoll, preschm. Walter J. Beadle, v.p. Walter Dannenbaum, v.p. NNION CARBIDE & CARBON Morse G. Diel, pres. Howard S. Buen, v.p. George O. Curme, ir., v.p. Pold to Fred Regerred as pres LLIED CHEMICAL & DYE C F. J. Emmerich, pres. E. W. Clark, v.p. Gien B. Miller, v.p.	. \$114,600 . \$3,500 dent. CHEMIII \$ & CO. . \$169,036 . \$7,226 \$ CORP. . \$225,000 . 101,918** . \$125,000 . \$125,000 . \$125,000 . \$125,000 . \$125,000 . \$125,000 . \$125,000 . \$125,000	\$400,000 250,000 230,000 330,000 for pa	\$114,600 53,300 \$569,056 339,800 337,226 \$225,000 101,918 milen]; **pires	\$55,000° \$539,550 \$219,115° \$21,812 enewly \$125,000
RANE CO. J. L. Holloway, pres. L. N. Blugerman, v.p. Pold to V. P. Rumely as vice presi J. DU PONT DE NEMOUR Crawford H. Greenewall, pres.—chm. Walter J. Beadle, v.p. Wolter Dannenboum, v.p. PONION CARBIDE & CARBON Morse G. Diel, pres. Howard S. Bune, v.p. George O. Curme, Jr., v.p. Pald to Fred Hagerism as pres LILIED CHEMICAL & DYE C P. J. Emmerich, pres. E. W. Clark, v.p. Gien B. Miller, v.p. Pald to C. F. Weber as v.p., "aga	. \$114,600 . \$3,500 dent. CHEMIII \$ & CO. . \$169,036 . \$7,226 \$ CORP. . \$225,000 . 101,918** . \$125,000 . \$125,000 . \$125,000 . \$125,000 . \$125,000 . \$125,000 . \$125,000 . \$125,000	\$400,000 250,000 230,000 330,000 for pa	\$114,600 53,300 \$569,056 339,800 337,226 \$225,000 101,918 msicnly ""pires \$125,006 85,000	\$55,000* \$539,550 \$219,115* \$21,812 energy \$125,000 70,000*
RANE CO. J. L. Holloway, pres. L. N. Blugerman, v.p. Pold to V. P. Rumely as vice presi J. DU PONT DE NEMOUR Crawford H. Greenewall, pres.—chm. Walter J. Beadle, v.p. Wolter Dannenboum, v.p. PONION CARBIDE & CARBON Morse G. Diel, pres. Howard S. Bune, v.p. George O. Curme, Jr., v.p. Pald to Fred Hagerism as pres LILIED CHEMICAL & DYE C P. J. Emmerich, pres. E. W. Clark, v.p. Gien B. Miller, v.p. Pald to C. F. Weber as v.p., "aga	S114,400 . 53,500 dent. CHEMBI S & CO \$149,056 . 89,800 . 87,225 M CORP \$225,000 . 101,918** sident (lactodes ORP \$125,000 . 85,000 . 85,000 . 80,000 . sid to F, M. McAn	\$400,000 250,000 230,000 330,000 for pa	\$114,600 53,300 \$569,056 339,800 337,226 \$225,000 101,918 msicnly ""pires \$125,006 85,000	\$55,000* \$539,550 \$219,115* \$21,812 energy \$125,000 70,000*
RANE CO. J. L. Holloway, pres. L. N. Blugerman, v.p. Pola to V. P. Rumely as vice preside to V. P. Rumely as vice presidence of the presidence of the presidence of the presidence of the pres. L. DU PONT DE NEMOUR Crawford H. Greenewall, pres. Walter Dannenbaum, v.p. Walter Dannenbaum, v.p. NINION CARBIDE & CARBON Marse G. Diel, pres. Howard S. Bunn, v.p. George O. Curme, 3r., v.p. Praid to fred Haggerson as pres. L. W. Clark, v.p. Tellem Cal. B. DYE C. F. J. Emmerich, pres. L. W. Clark, v.p. Paid to C. F. Weber as v.p.; "paid to C. F. Weber as v.p.; "pa	. \$114,400 . \$3,500 dent. CHEMIII \$ & CO. . \$169,056 . \$9,800 . \$7,226 I CORP. . \$225,000 . 101,918** . \$125,000 . \$125,0	\$400,000 250,000 230,000 330,000 for pa	\$114,400 53,300 \$569,056 339,800 337,226 \$225,000 101,918 ecion), ***pics \$125,000 85,000 80,000	\$55,000* \$539,550 \$219,115* \$21,812 energy \$125,000 70,000*
RANE CO. J. L. Holloway, pres. L. N. Blugerman, v.p. Pold to V. P. Rumely as vice preside to V. P. Rumely as vice president to V. P. Rumely as v.p. Walter J. Beodle, v.p. Walter Dannenbaum, v.p. NION CARBIDE & CARBON Marse G. Diel, pres. Howard S. Bunn, v.p. George O. Curme, Jr., v.p. Joid to Fred Hopperson as president to V. P. J. Emmerich, press. E. W. Clark, v.p. Gien B. Miller, v.p. Joid to C. F. Weber on v.p.; "Specific C. F. Weber on v.p.;" "Pol OW CHEMICAL CO. Leland I. Doon, pres.	. \$114,400 . \$3,500 dent. CHEMIII \$ & CO. . \$169,056 . \$9,800 . \$7,226 I CORP. . \$225,000 . 101,918** . \$125,000 . \$125,0	\$400,000 250,000 230,000 330,000 for pa	\$114,600 53,300 \$569,056 339,800 337,226 \$225,000 101,918 eclent; ***pice \$125,000 85,000 80,000	\$55,000* \$539,550 \$219,115* \$21,812 energy \$125,000 70,000*



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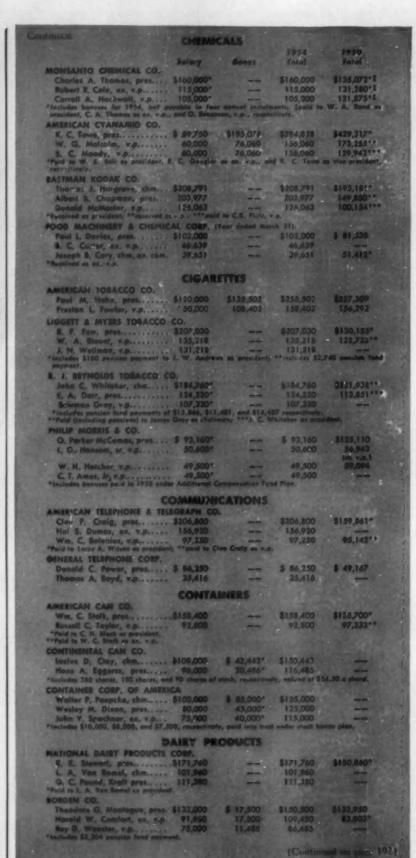


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Continued	PARTMEN	IT STORES	2016	
			1954	1950
PEDERATED DEPT, STORES, IN	Solary C.	Bonus	Total	Total
Fred Lazorus Jr., pres Walter N. Rothschild, pres.	\$140,200	80.50	\$160,200	8145,340
Abraham & Straus Rebert Lazarus, pres.	125,200		125,200	100,300
P. & R. Letterus Co R. H. MACY & CO. (Year Ende		-	100,200	
Jack Strees, pres		-	\$135,000 116,340	\$125,480 100,000
MAY DEPARTMENT STORES CO	O. (Your Endi	ng Jan. 31, 1955	1	
Morion J. May, chm Morion D. May, pres	118,614	-	\$100,300 118,614	110,296°
Faid to Perton J. May (includes \$1 (includes \$9,193 pension payment).	79,152 0,094 pension	payment); **po	79,152 pid to Samuel I	144,772** Receivery or V.D.
(includes \$9,193 pension payment).	DISTIL	LERS		
NATIONAL DISTILLERS PRODUC	CTS CORP.			************
John E. Bierwirth, pros B. C. Ohlandt, v.p	81,515"		\$192,865 81,515	\$235,632**
Ernest Stainton, v.p	90,045°	antly elleted for	80,048 refirement.	-
"Plus 1,756, 769, and 659 common "lactudes \$8,400 pension fund pays DISTILLERS CORPSEAGRAMS,				
Samuel Branfman, pres	\$353,750		\$353,750	\$112,328*
Allan Branfman, v.p "Includes \$0,162 and \$3,705 pension	201,875 fund paymoni	s, respectively.	201,875	70,372°
	DRU	GS		
Ernost H. Volwiler, pros	5.85,000		\$ 85,000	8 74.711
James F. Stiles, Jr. chm "raid to S. O. Clough as provident.	71,000		71,000	33,000,
BRISTOL-MITRES CO. (Year Endia			\$ 36,937	
Henry P. Bristol, chm	78,000		78,000 73,646	
Wm. 74. Bristol, ex. v.p STERLING DRUG INC.	73,646		70,240	
James Hill Jr., chm-pres J. Mark Hiebert, ex, v.p	\$131,354*		\$131,354 68,600	\$136,562**
f. I. McClintock, v.p	70,750		70,750	69,670**
*includes \$10,000 paid under agree **includes pension payments of \$5,1	50 for Hill and	\$2,870 for McC	lintock.	
J. W. Dart, pres	\$ 75,000	-	\$ 75,000	\$ 50,000
W. T. Liffie, v.p	40,000 33,000	16,000	56,000 43,000	
ELECTRICAL			PLIANCES	
GENERAL ELECTRIC CO.				
Ralph J. Cordiner, pres Philip D. Reed, chm	150,0151		\$218,726 150,015	\$280,234°° 182,128
Hanry V. Erhan, as v.o.	146,365° oy allated for	1953.	146,365	167,305***
*Includes about half of incentive pr **Pold to Charles E. Wilson as prosi- ***Pold to Ralph Cordiner as an. v.p.	dest.			
Gwilym A. Price, pres	2.		\$186,050	\$216,231*
L. E. Osborne, all. v.p	131,150		131,150	
J. K. Hadnette, v.p	115,093		115,093	
*Includes \$10,992 pension fund paym AVCO MPG. CORP. [Your Ending				
Victor Emanuel, chm W. A. Megensen, v.p			\$125,000 75,000	\$148,316
The state of the s	DOD PR	DRIVETS		Java P
STANDARD BRANDS, INC.		Descis		
Joel S. Mitchell, pres	\$125,000 62,500	==	\$125,000 62,500	\$109,308
Leonard G. Reichhard, v.p	60,000		60,000	-
GENERAL FOODS CORP. (Your &	1130.000	\$ 45,000†	\$175,000	\$130,000
Austin S. Iglehoort, pres Chas. G. Martimer, ex. v.p.	123,000	45,000† 45,000†	168,000	115,000 76,666°
"Poid to E. Gibsen os es, v.p. (Under	deferred comp	ensetion plan.	,,	
CORN PRODUCTS REFINING CO	\$ 80,000		\$ 90,000	\$ 75,000°
Wm. T. Brady, v.p	60,000	TE	60,000	56,458
Wm. H. Gamble, v.p *Feld to M. Seyre as president, **pold	to N. G. Was	cher es v.p.		

90,116 66,850 84,218 dent; 4,218 dent; 8,610	\$107,800 57,200 57,717 \$110,000 99,585 90,571 \$106,821 92,821	\$117,700° 95,625° 86,666°°° \$125,769 \$165,801°°° \$104,200 90,200
66,850 84,218 	123,600 131,718 \$135,000 125,000 90,000 \$50,000 \$178,365 69,763 49,763 49,763 128,651 128,651 128,651 128,651 57,200 57,200 57,200 57,717 \$110,000 99,585 90,571 \$106,821 92,821	\$117,708° 95,625° 86,666° \$125,769 \$367,754 166,868° 165,601°
66,850 84,218 	123,600 131,718 \$135,000 125,000 90,000 \$50,000 \$178,365 69,763 49,763 49,763 128,651 128,651 128,651 128,651 57,200 57,200 57,200 57,717 \$110,000 99,585 90,571 \$106,821 92,821	\$117,708° 95,625° 86,666° \$125,769 \$367,754 166,868° 165,601°
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200.000	\$135,000	\$127,378"
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	\$161,700	\$160,650
3,000	146,700	123,350
	\$103,071	\$108,820**
*	77,333	79.334**
	67,156	76,282**
A Charles Co.	eedwin payabl	e in instellments
	pession p	### ### ### ### ### ### #### #########



the tale of two cities —one city did... one city did not!

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E. F. Button, a july				
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Burt S. Martine Vigen				
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	-	-	-	Name and Address of the Owner, where the Owner, which is the Owner, where the Owner, which is the Owner, where the Owner, which is the Owner, which i
Continued	OIL COM	PANIES		
	- Colom	Recor	1954 Total	1950 Total
STANDARD OIL CO. (IND.)	Salary			
Robert E. Wilson, chm			\$171,368	\$149,970° 140,368°
Alonzo W, Peaka, pres Frank O. Prier, ex. v.p	. 145,709	-	145,709	-
*lactodes \$17,470 and \$17,868, a \$TANDARD OIL CO. (H. J.)		en payment.		
Eugene Holman, chm	****	\$ 18,225*	\$213,225	\$185,439**
M. J. Rathbone, pres	150,000	13,357° 13,244°	163,357	209,9187
Chester F. Smith, v.p "Thrift occount payments; ""paid ment]; Spaid to Holman as provide	to F. W. Abrot last (Includes \$23)	ns as chairman ,905 for possions	(includes \$26,9	Ol pension pay-
J. S. Leuch, chm	\$165,000	-	\$145,000	\$150,000°
Augustus C. Leng, pres	150,000		150,000	140,000**
& F. Baker, ax. v.p "Paid to W. S. S. Budgers as shall	100,000 rman; **paid to N	larry Y. Klain as	100,000 procident.	
TIDE WATER ASSOCIATED	OIL CO.			\$ 85,815**
D. T. Staples, pres L. F. Bayer, v.p			\$ 78,777° 58,184°	47,854**
H. A. Jackson, v.p.,	41,761	-	41,761*	51,120**
*Plus \$2,348, \$1,864, and \$1,00 **Puid to W. E. Humphrey, E. H.		Graves, respective	rely.	
Rease H. Taylor, pres			\$125,000	\$100,000
W. L. Stewart, Jr., ex. v.p.	90,000		90,000	70,000
A. C. Rubel, v.p	75,000		75,000	60,000
	PAPER PR			
J. D. Zeilerboch, pres		pr. 30, 1734)	\$102,300	
H. L. Zellerbach, ex. v.p	76,450		78,450	20,900
D. S. Denman, v.p		-	56,300	
John H. Hinman*	\$150,000	-	\$150,000	\$150,000
Harrison R. Weaver, 1st v	.p. 125,000	-	125,000	125,000
Richard C. Doone" "President until May 12, then ch	sirmen. **Vice p	resident until Ma	y 12, then pres	ident.
ST. REGIS PAPER CO.	- 5100 600		\$100,800	\$ 77,500*
Roy K. Ferguson, prescs Edward R. Gay, ox. v.p *Fous \$18,589 and \$5,755, respec	60,280		60,280	40,000°
	ADIO & 1			
RADIO CORP. OF AMERICA				
David Sarnoff, chm		21,434*	\$200,000	\$200,000
Frank M. Felsom, pres Lindsey W. Toegarden,				
*Part cash, part RCA common; **	135,000 Includes \$9,334 a	sessies payment.	135,000	-
COLUMBIA BROADCASTING	SYSTEM, INC			
Edward R. Murrow, direc		-	\$306,611 250,836°	\$135,206 164,871
Frank Stenion, pres Wm. S. Paley, chm	200,000	-	200,000*	117,413
*Pius \$12,335 and \$16,536, resp	ectively, in pension	na payments.		
PHILCO CORP. Wm. Bolderston, chm	\$ 68,750	\$ 49,000	\$117,750*	-
James H. Cormine, pres.	66,250	40,000	106,290*	193,750**
John M. Otter, ex. v.p *Plus \$3,786, \$3,403, and \$2,	345 invested in Pi	hilse common for	deferred payme	at.
**Pold to Balderston as president		CHAINS		
W. T. GRANT CO.			6120.782	\$120,476*
Edward Staley, pres Louis C. Lustenberger, ex.			\$130,782 97,132	93,950**
1 Luther Knies vo	77.030	war TAN	77,030	83,609***
*Poid to R. H. Fogler os presid (includes \$5,027 pension); ***	poid to L. Luston	berper as v.p. (includes \$4,395	pension).
8. S. KRESGE CO. F. P. Williams, pres	\$ 75,000	-	\$ 75,000	\$ 80,000°
R. D. Kresge, v.p	50,000	-	90,000	75,000°
H. J. Liverance, v.p *Paid to D. C. Fisher as presiden	50,000 if and C. E. Helze	rarth as v.p., rea	50,000 pectively.	
J. C. PENNSY CO.				
J. C. Penney, chm A. W. Hughes, pres			\$101,495	\$103,200
George E. Mack, ex. v.p	101,495"		101,495	-
F. W. WOOLWORTH CO.	Company Commen			14114
James T. Leffwich, pres.			\$186,684	\$124,026° 200,000°
Alfred L. Cornwell, chm., George F. Terpenning, v	92,597		92,597	200,000
*Poid to A. L. Cornwell or presi	dent and C. W. D	eyo as chairman.		

	STEEL CO	MPANIES		
			1954	1950
45MCO (TER COSE	Salery	Benus	Total	Total
W. W. Sebeld, pres	\$245,048	1	\$245,048	\$255,906*
Chas. R. Hook, chm			220,052	258,311*
Rolph L. Gray, ex. v.p *Include: \$44,196, \$44,930, and \$		-		179,838*
	33,313, respect	ively, in pension	psyments.	
BETHCRHEM STEEL CORF.	£1.60.000	2440.014	****	8444 993
Eugene G. Groze, chm Arthur B. Homer, pres		\$440,815 367,347	\$590,815 487,347	381,932
Robert E. McMath, v.p	75,000	293,876	368,876	-
COLORADO FUEL & IRON CO	ORP. (Your En	ded June 30, 19	54)	
A. F. Franz, pres	. 116,175		116,175	49,508
Franklin Berwin, v.p	45,550		45,550	(os ex. v.p.)
			45,330	36,725
J. L. Ashby, v.pgn, mng		54)	\$ 69,270*	1112 400
Goo. B. McMeans, v.p		-	43,883*	
C. P. Borden, v.p *Plus \$3,824, \$2,322, and \$2,203,				-
"Plus \$3,824, \$2,322, and \$2,203,	respectively, in	pension paymen	is.	
JONES & LAUGHLIN STEEL				
C. L. Austin, pres		\$ 30,780	\$130,780	124 049
Sen. Mercell, chm A. J. Huzlett, ex. v.p		36,572 18,625	186,572	126,042 70,625*
"Paid to C. L. Austin as assecutive t	rice-president.	10,000	100,020	70,020
REPUBLIC STEEL CORP.				
T. M. Girdler, chm			\$300,000	\$279,166°
C. M. White, pres T. F. Patton, 1st v.p	. 160,000	-	160,000	258,333° 97,500°°
"Plus \$2,406 and \$64,095, respectively Poid to J. M. Schlanderf (plus \$3	dively, in pensis	on payments.	100,000	** ,200
NATIONAL STEEL CORP.	5,737 in pensie	in payments).		
Ernest T. Weir, chm	\$260,606	-	\$260,606	\$459,025
Thomas E. Millsop*			260,616	369,025**
Genroe & Flok week	128.535		128,535	458,925***
"As vice-president, then president "As vice-president (plus \$20,115" "Flus \$34,078 pension payment.	pension payms	nt).		
U. S. STEEL CORP.	8260 200		6250 200	\$173,477*
Benjamin Fairless, chm Clifford F. Hood, pres	213,000		\$259,200 213,000	222,897**
"Poid to Irving 5. Olds as chairm "Faid to Benjamin Fairless as pre-	on (includes \$6.	711 pension pay	ment).	
YOUNGSTOWN SHEET AND		\$8,731 pension (wymani).	
J. L. Mauthe, pres		Service.	\$186,537	\$126,667**
Walter E. Watson, 1st v.p., *Became president after April 25,	. 124,358	-		
"Became president after April 25,	1930; ""poid to	Frank Purnell a	s president and	then chairmen.
	TEXT			
		LES		
J. Spencer Leve, chm		\$ 2,839*	\$129,839	\$250,000
J. C. Cowan Jr., v. chm		2,130*	77,130	235,000
				(as pres.)
Walter E. Greer, Jr. ex. v.p		1,704*	86,704	
Herbert Kaiser, ex. v.p *Prefit-sharing pion.	, 97,000	2,044*	99,044	
J. P. STEVENS & CO., INC.				
J. P. Stevens, Jr., chm			\$ 80,000	
Joseph Sutherland, pres	. 80,000		80,000	4 44 444
Wilbert J. Carter, ex. v.p Raymanó G. Emery, ex. v.p		-	000,08	\$ 80,000 80,000
UNITED MERCHANTS & MFR		anding from 36		
J. W. Schwab, pres		\$256,366	\$356,366	\$381,930*
A. Harry Feldman, v.p	. 40,300	122,478	163,178	174,315*
*Plus \$18,444 and \$16,527, respect	rively, for pensi	en payments.		
TIME	A DIMES		MIER	
FIRESTONE THE & RUBBER O		R COMPA	LAIRS.	
Horvey S. Firestone, Jr. chm		-	\$155,000	\$162,000*
Lee Jackson, pres	. 130,000	-	130,000	132,000°
John Shee, v.p	. 102,000	-	102,000	105,000*
*Includes \$27,000, \$22,000, and \$ GOODYEAR TIRE & BUBBER		very, of deferred	contingent po	y effor reffrement,
E. J. Thomas, pres			\$190,082	\$159,185
P. W. Litchfield, chm			141,093	125,000
R. S. Wilson, v.p		-	131,255	107,269
B. F. GOODBICH CO.				

\$235,000

161,667

\$235,000*

(Continued on page 198)

105,000**

FIVE PAYLOADERS units spark production at Mueller Brass Co.



Unloading metal chips from truck



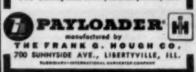
Unloading drums of oil



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ADVERTISERS IN THIS ISSUE

Business Week-May 28, 1955

ADDRESSGGRAPH-MULTIGRAPH CORP181
AERO SERVICE CORP
AIR TRANSPORT ASSOCIATION
Agency—Lewis Edwin Ryan ALLIS-CHALMERS MFG. CO
ALUMINUM CO. OF AMERICA
Agency-Ketchum, MacLeod & Grove, Inc.
Agency Fuller & Smith & Boss, Inc. 39
AMERICAN APPRAISAL CO
AMERICAN RADIATOR & STANDARD
Agency-Batton, Barton, Durotine & Othern, Inc.
AMERICAN TELEPHONE & TELEBRAPH CO
AMERICAN TRUCKING ASSOCIATION.
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SALTIMORE & OHIO HAILHOAD
Agency—The Richard A. Foley Adv. Agency Inc. BEMIS SAO, SAG CO
BREVER ELECTRIC MFG. CO N7
Agency-Grimm & Craigle THE BUDA DIV., ALLIS-CHALMERS
MFG. CO
BURGESS BATTERY CO124
Agency—Campbell-Ewald Co.
BUSINESS WEEK
Agency-Farson, Huff & Northlish
Agence N. W. Avec & Son. Inc.
Agency—Kenyon & Eckhardt, Inc.
CHICAGO, MILWAUKEE, ST. PAUL &
PACIFIC R. R. CO. 132 Agency-Roche, Williams & Cleary, Inc. CLUES (CLASSIFIED ADVERTISING)198
COLUMBIA-BOUTHERN CHEMICAL CORP., 74
COMMERCIAL CREDIT CO
CONTINENTAL CAN CO
CONTINENTAL MOTORS CORP
Agency-The Hopkins Agency
Agency-The Buches Co, CROMPTON-RICHMOND (FACTORING
Agency—Harry Server, Inc.
Agrico - G. M. Basford Co.
DANLY MACHINE SPECIALTIES, INC. 156-157
DAVISON CHEMICAL CO., DIV. OF
Agency-Ht. Georges & Keyes, Inc.
Agency—The Bushen Co.
Agency—Penn & Hamaker, Inc.
DIV. EASTMAN KODAK CO
Agency—Charles L. Rumrill & Co., Inc.
Agency-The Condon Co. ALLEN B. DUMONT LABORATORIES, INC. 118
Agency Campbell-Ewald Co.
Agency Batton, Barton, Durstine & Osborn, Inc.
Agency—The Raigh H. Jones Co. THOMAS A. EDISON, INC. FOLIOR
Agency—The Condon Co. ALLEN S. DUMONT LABORATORIES, INC. 118 Agency—Campbell Emaid Co. E. I. DUPONT DE NEMOURS & CO. 42, 60-61 Agency—Batten, Barton, Duratine & Osborn, Inc. EAGLE FICKER CO. 75 Apricy—The Italph II. Jones Co. 75 Apricy—The Italph III. Jones Co. 75 APRICY—The Italph III. Jones Co. 75 APRICY—The Italph III. 68 EMISS CO. 186 EMISS CO. 186 Agency—McCann-Erickson, Inc. 112 Agency—McCann-Erickson, Inc. 177 ERIE RALEROAD CO. 177
Agency McCann Erickson The
ENJAY CO. INC. 112 Agency McCann-Erickson, Inc. ENIE RAILROAD CO. 177 Agency The Griswold-Echleman Co. THE EVERING A SUNDAY BULLETIN INS
Agency—The Orievoid-Enhieman Co. THE EVERING & SUNDAY BULLETIN. 185 Aprocy—N. W. Ayer & Seo. 100. THE FAFRIR BEARING CO
THE FAFRIR BEARING CO Brd Cover
Agency Melvin F. Hell Adv. Agency 180
FRIDEN CALCULATING MACHINE CO.
INC. Water Thompson Co. FRIGIDALINE DIV. GENERAL MOTORS CORP. Acres Foots, Come & Bidding
Acres - Posts, Comp & Bolding

Agency-The Allman Co., Inc.
Agency James Thomas Chirurg Co., Inc
Agency-J. Walter Thompson Co. GENERAL BYNAMICS CORP. (ELECTRO DYNAMICS DIV.)
Agency-Gotham Adv. Co., Inc. GENERAL ELECTRIC CO. (LAMP DEPT.) . 24 Agency-Batten, Barton, Duretine & Osborn, Inc.
A new cor. Washington A normally Time
GENERAL PRECISION EQUIPMENT CORP. 4-8 Assocy—Gere, DuBois & Co., Inc. GERLINGER CARRIER CO., 120
Agency—Hal Short & Co., Inc. GOLDMAN, SACHS & CO
Agency—Albert Frank-Guenther Law, Inc.
Agency—The Griswold-Eshleman Co.
GREAT LAKES STEEL CORP. (STRAM-STEEL DIV.) 98 Assess—Campbell-Ewald Co. JOHN HANCOCK MUTUAL LIFE INSURANCE CO. 97
HARDWARE MUTUAL CABUALTY CO
Agency Page Neel Brown, Inc.
HOOKER ELECTROCHEMICAL CO
Agency Doremus & Co.
THE FRANK S. HOUSH CO
Agency-Waldie & Briggs, Inc.
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Agency—Benton & Bowles, Inc.
INVINCIBLE VACUUM CLEANER MFG. CO
KOPPERS CO., INC. (CHEMICAL DIV.)
Agency—Hatten, Barton, Durstine & Osbork, Inc.
DR. IRVING P. KRICK. IVI Agency—Harold Walter Clark, Inc. SAMUEL M. LANGSTON CO. 107
LAYNE & BOWLER, INC
Agency—Re-engarten & Steinke, Inc. LENIGH WAREHOUSE & TRANSPOR- YATION CO. Agency—Burke Dowling Adams, Inc.
Agency-Burke Dowling Adams, Inc.
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LYON METAL PRODUCTS, INC
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LYON METAL PRODUCTS, INC. AGENCY—Heinche, Meyer & Pinn, Inc. MANITOBA OFFT, OF INDUSTRY & COMMERCE Agency—Cockneid, Brown, & Co., L4d. MeGRAW—MILL PUBLISHING CO. ful MeLOUTH STEEL CORP. AGENCY—Detman & Raker, Inc. METALS & CONTROLS CORP., SPENCER THERMOSTAT DV. AGENCY—Rutherland-Abhoot METROPOLITAN LIFE INS. CO. 11 AGENCY—Tous & Bublicam, Inc.
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LYON METAL PRODUCTS. INC. Agency—Reinche, Mayer & Pinn, Inc. MANITOBA DEPT. OF INDUSTRY & COMMERCE Agency—Cockneid, Brown & Co., Led. McGRAW—MILL PUBLISHING CO. FSI McLOUTH STEEL CORP. 19 Agency—Denman & Baker, Inc. METALS & CONTROLS CORP. & PENCER THERMOSTAT DIV. Agency—Stutherland-Abboot METROPOLITAN LIFE INS. CO. 11 Agency—Voung & Rubbicam, Inc. MINNEAPOLIS—HONEYWELL REGULATOR CO. 54-80 Agency—Foote, Come & Beiding NATIONAL CAR RENYAL SYSTEM, INC. 178 Agency—Gose Illion & Assoc.
LYON METAL PRODUCTS, INC. Agency—Reincle, Migrer & Pinn, Inc. MANITOBA DEPT. OF INDUSTRY & COMMERCE Agency—Cockneid, Brown & Co., Led. McGRAW—MILL PUBLISHING CO. Fül McGUTH STEEL CORP. 19 Agency—Denman & Baker, Inc. METALS & CONTROLS CORP. APPENCER THERMOSTAT DIV. Agency—Sutherland-Abbott METROPOLITAN LIFE INS. CO. 11 Agency—Sutherland-Abbott MINNEAPOLISHONEYWELL REGULATOR CO. 54-86 Agency—Foote, Come & Beiding NATIONAL CAR MENYAL SYSTEM, INC. 178 Agency—Geose Blood & Assoc. NATIONAL CARM RESISTER CO. ING Green MATONAL CARM RESISTER CO. ING Green
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LYON METAL PRODUCTS, INC. ARDROY—Relinche, Mayer & Pinn, Inc. MANITOBA DEPT. OF INDUSTRY & COMMERCE Agricy—Cocknield, Brown & Co., Led, McGRAW—MILL PUBLISHING CO. Fil McLOUTH STEEL CORP. 19 Agrocy—Denman & Baker, Inc. METALS & CONTROLS CORP. SPENCER THERMOSTAT DIV. Agency—Stutherland-Abbedt METROPOLITAN LIFE INS. CO. 11 Agency—Stutherland-Abbedt MINNEAPOLITAN LIFE INS. CO. 54-86 CO. 54-86 ABONCY—Foote, Come & Reiding NATIONAL CARN RESISTER CO. 188 AGENCY—Gose Blood & Assoc. NATIONAL CASH RESISTER CO. 188 AGENCY—MCCAN EFFICENCE, INC. 178 AGENCY—MCCAN EFFICENCE, INC. 179 AGENCY—Batter, BATCH, Dursline & Octors, Inc. NATIONAL MOTOR BEARING CO. 1NC. 179 AGENCY—Batter, BATCH, Dursline & Octors, Inc. NATIONAL MOTOR BEARING CO. 1NC. 179 AGENCY—L. C. COCC CO.
LYON METAL PRODUCTS, INC. ARDROY—Relinche, Mayer & Pinn, Inc. MANITOBA DEPT. OF INDUSTRY & COMMERCE Agricy—Cockneid, Brown & Co., Led. MeGRAW—MILL PUBLISHING CO. Fil MeLOUTH STEEL CORP. 19 Agreey—Denman & Baker, Inc. METALS & CONTROLS CORP. SPENCER THERMOSTAT DIV. Agency—Stutherland-Abbedt METROPOLITAN LIFE INS. CO. 11 Agency—Stutherland-Abbedt MINNEAPOLITAN LIFE INS. CO. 54-86 ABENCY—Young & Rubleam, Inc. MINNEAPOLITAN LIFE INS. CO. 54-86 ABENCY—Foote, Come & Reiding NATIONAL CARN RESISTER CO. 188 GWAR AGENCY—MCCAM ETCHONO, 100. MATIONAL CASH RESISTER CO. 188 GWAR AGENCY—MCCAM ETCHONO, 100. MATIONAL GAPRAGE CO. 188 GWAR AGENCY—MCCAM ETCHONO, 100. MATIONAL GAPRAGE CO. 188 GWAR AGENCY—Battee, Barton, Dursline & Octor, Inc. MATIONAL MOTOR BEARING CO. 189. 179 ARENCE O. 3. 1860-1961 CO. MATIONAL STARGH PRODUCTS, INC. 55 AGENCY—O, 3. 1860-1961 CO.
LYON METAL PRODUCTS, INC. ARROY—Reinche, Mayer & Pinn, Inc. MANITOBA DEPT. OF INDUSTRY & COMMERCE Agency—Cockniels, Brown, & Co., Led. Megnaw—Mill. PUBLISHING CO. Fil MeLOUTH STEEL CORP. 19 ASSOC;—Denman & Baker, Inc. METALS & CONTROLS CORP. SPEMCER THERMOSTAT DIV. ASSOC;—Sutherland-Abbedt METROPOLITAN LIFE INS. CO. 11 ASSOC;—Sutherland-Abbedt MINNEAPOLITAN LIFE INS. CO. 54-86 CO. 54-86 ASSOC;—Foole, Come & Beiding NATIONAL CAR MENTAL SYSTEM, INC. 178 ASSOC;—Goode, Come & Beiding NATIONAL CASH RESISTER CO. 188 Causer ASSOC;—MCCans Ericheso, Inc. NATIONAL CASH RESISTER CO. 188 Causer ASSOC;—Batter, Batton, Durstine & Osborn, Inc. NATIONAL MOTOR BEARING CO. 195. 179 ASSOC;—CO., M. Bedfond Co. NEW YORK LIFE INSURANCE CO. 96 AASSOC;—Compton Adv., Inc. 95 Assoc;—COMPTON Adv., INC. 95 ASSOC;—CO
LYON METAL PRODUCTS, INC. ARDROY—Relincie, Mayer & Pinn, Inc. MANITOBA DEPT. OF INDUSTRY & COMMERCE Agency—Cockneid, Brown & Co., Led. Megraw—Mill. PUBLISHING CO. Helduth STEEL CORP. 19 Agency—Denman & Baker, Inc. METALS & CONTROLS CORP. SPEMCER THERMOSTAT DIV. Agency—Stutherland-Abbett METROPOLITAN LIFE INS. CO. 11 Agency—Stutherland-Abbett MINNEAPOLITAN LIFE INS. CO. 11 Agency—Stutherland-Abbett MINNEAPOLITAN LIFE INS. CO. 11 Agency—Foots, Cose & Beiding NATIONAL CAS MENTAL SYSTEM, INC. 178 Agency—Gree Blook & Assoc. NATIONAL CASM RESISTER CO. 186 Casses AGENCY—McCans Ecloses, Inc. NATIONAL CASM RESISTER CO. 187 Agency—Gree Blook & Assoc. NATIONAL CASM RESISTER CO. 188 Casses NATIONAL CASM RESISTER CO. 180 Casses AGENCY—McCans Ecloses, Inc. 190 AGENCY—OLD BLOOK CO. 190 AGENCY—OLD BLOOK CO. 190 AGENCY—OLD BLOOK CO. 190 AGENCY—OLD BLOOK CO. 190 AGENCY—OLD BLOOK ABOLE. 190 AGENCY—Public A Benith & Rose, Inc.
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LYON METAL PRODUCTS, INC. ARDROY—Relinche, Mayer & Pinn, Inc. MANITOBA DEFT. OF INDUSTRY & COMMERCE Agency—Cockheid, Brown & Co., Léd. MeGRAW-MILL PUBLISHING CO. HELOUTH STEEL CORP. HEALS & CONTROLS CORP., SPEMCER THERMOSTAT DIV. AGENCY—Rotherland Albert HEYROPOLITAN LIFE INS. CO. HEYALS & CONTROLS CORP., SPEMCER THERMOSTAT DIV. AGENCY—Rotherland Albert HEYROPOLITAN LIFE INS. CO. ASSOCY—Bulle-HONEVWELL NEGULATOR CO. ASSOCY—Bulle-HONEVWELL NEGULATOR ACHORY—Forte. Coice & Belding NATIONAL CAR RESTAL SYSTEM, INC. ITA AGENCY—Grave Bluon & Assoc. NATIONAL CAR RESTAL SYSTEM, INC. ITA AGENCY—Medians Effichens, Inc. NATIONAL CASH REGISTER CO. INS. Graver AGENCY—Medians Effichens, Inc. NATIONAL BYPSUN CO. NATIONAL BYPSUN CO. NATIONAL SYSTEM PRODUCTS, INC. SS AGENCY—GRAVE HORD CO. NEW YORK LIFE INSURANCE CO. SS AGENCY—OLD CO. AGENCY—The CITACOLIC Edition THE GRAVET CO. O'SULLIVAN RUBBER CORP. AGENCY—The CITACOLIC Edition O'SULLIVAN RUBBER CORP. AGENCY—Charles W. HOT CO., Inc. OVERSEAS BUSINESS SERVICE. O'SULLIVAN RUBBER CORP. AGENCY—Charles W. HOT CO., Inc. OVERSEAS BUSINESS SERVICE O'ALSO DIV. (GENERAL ANLINE # FILM CORP.) AGENCY—Puller & SWRITE & BOW, Inc. PACKAGE MACHINERY CO. 93 AGENCY—Puller & SWRITE & BOW, Inc.
LYON METAL PRODUCTS, INC. ARDROY—Relinche, Mayer & Pinn, Inc. MANITOBA DEFT. OF INDUSTRY & COMMERCE Agency—Cockneid, Brown & Co., Led. Megraw-Mill, PUBLISHING CO. Helduth STEEL CORP. MEGRAW-MILL PUBLISHING CO. HELDUTH STEEL CORP. METALS & CONTROLS CORP., SPEMCER THERMOSTAT DIV. AGENCY—Rutherland-Aibent METROPOLITAN LIFE INS. CO. III. AGENCY—Youse & Biolicam, Inc. MINGLAPOLITAN LIFE INS. CO. III. AGENCY—Youse & Biolicam, Inc. MINGLAPOLITAN LIFE INS. CO. III. AGENCY—Forte. Come & Bedding NATIONAL CAR RENTAL SYSTEM, INC. ITA AGENCY—MCLANS REGISTER CO. INGLAND AGENCY—MCLANS CO. ING. ISA AGENCY—MCLANS REGISTER CO. INGLAND AGENCY—MCLANS CO. INGLAND AGENCY—MCLANS CO. INGLAND AGENCY—OF CO. INGLAND CO

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Agency LaPerte & Austin, Inc. REVNOLDS METALS CO
Agency—Buchanan & Co., Inc.
Agency—Campbell-Ewald Co. 1008INS & MYERS, INC
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Inc.
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Agency Doremus & Co.
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Assect Parson, Friedman & Central Adv.
TANDARD CONVEYOR CO
STANDARD CONVEYOR CO. 189 Autonop.—Klau. Van Pietersom. Duniap, Inc. STANDARD OIL CO. (NEW JERSEY)
Agency—Gray & Rogers
Agency—Gray & Rogers DTEELCASE, INC. Agency—Wesley Aves & Assoc, Inc. 44
TEELCRAFT MFS. CO. Associated Russ, Inc. Teleproperty of the State of
Agency Harold Cabot & Co., Inc.
THE STUDENS POSTURE CHAIR CO. 187
THE STURGIS POSTURE CHAIR CO167 Agency—Bilaco Adv. Agency SWIFT & CO
Agency—Blace Adv. Agency BWIFT & CO
PME STURGIS POSTURE CHAIR CO. 187 Arence-Blace Adv. Assec; 97 FT & CO. 97 Acrocy-Blased T. Gray, Inc. 123 Agency-A Walter Thompost Co. Agency-A Walter Thompost Co. 80-81
Agency—Blaco Adv. Agency WiFf & Co
Agency—Blaco Adv. Agency WiFf & Co
Agency—Blace Adv. Agency BWIFT & CO
Agency—Blaco Adv. Agency WiFf & Co
Agency—Blaco Adv. Agency WiFf & Co
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Agency—Blaco Adv. Agency WiFf & Co
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Government and Business

Everyone knows that government has encroached on private enterprise. But it took a special task force of the Hoover Commission to spell out, in detail, the real extent of the government's infiltration into business. Titled "Business Enterprises," the new study reveals that the government is engaged in everything from shipbuilding and acrap metal producing to the manufacture of ice cream and eye glasses.

According to the study, the Defense Dept. alone has over 2,500 different activities that cost over \$15-billion. Non-defense agencies also operate a vast number of publicly owned enterprises. Thus, by any yardstick,

Washington is in business in a big way.

The report declares that some of the enterprises run by the Defense Dept. can be justified on military and security grounds. But many more, it feels, are completely unjustifiable. There is nothing "classified" about bread baking, for example. Nor is there any need to maintain clothing manufacturing plants when private enterprise can do the same job better and cheaper.

Government, says the report, is meant to have regulatory and protective functions over business. It is not supposed to be a producer in its own right. Yet until the advent of the Eisenhower Administration, the government was an increasingly powerful competitor.

This trend has now been reversed. There is still a long way to go, though, before government enterprise is reduced to an essential minimum. Moreover, the government has become entrenched in so many varied enterprises that any withdrawal is bound to bring considerable economic stress and strain. This must be taken into account.

We need thoughtful and consistent policy along the lines recommended in the Hoover report. We need action, too. Now is the time to begin.

Thinking Ahead on Taxes

Acting on the assumption that tax reductions are in prospect for next year, the Committee for Economic Development has issued a special study, "Federal Tax Issues in 1955." It emphasizes the importance of making an early start on tackling the complex problems involved in reducing taxes.

With an election year ahead, CED observes that "tax changes adopted for short-run political advantage are always dangerous on economic and ethical grounds." Its own recommendations stress economic good sense rather

than political expediency.

Taxes, CED avers, must be geared to over-all budget policy. It favors setting rates that would balance the budget at a high level of unemployment. And it states that if additional expenditures can be avoided next year, it will be possible to have a "substantial reduction in tax rates."

When taxes are cut, the study urges that top priority be placed on lowering individual tax rates.

It recommends relatively greater reductions in the upper tax brackets. The CED points out that most of the dollar benefits would in any case go to the majority in the lower brackets. Giving greater relief to the minority, however, would stimulate investment and thus help insure a growing economy with benefits to everyone.

This line of thinking will not appeal to those who favor a political approach. The political way is to raise taxes most on upper brackets when taxes as a whole are being raised and to lower them least on the same brackets when taxes are being lowered. Over the years this process has led to serious inequities and outright distortions which any objective observer recognizes.

Considerable progress was made when the tax laws were revised last year. But a good deal more needs to be done before we can enjoy a tax system that makes sense. Taxes, like death, are inevitable. But they should not be everlastingly unfair and discriminatory.

Best Man for the Job

After a searching inquiry into his background and his professional competence, and a nationwide canvass for alternative candidates who could equal his quality, Ewan Clague is the man Pres. Eisenhower and Labor Secy. Mitchell have decided they want as Commissioner of Labor Statistics.

Clague held this post from 1946 up until last August when his term expired. Then, because it is a good job—well paid by government standards and carrying considerable prestige—the politicians claimed it for patronage purposes. Sen. Martin of Pennsylvania, Clague's home state, let it be known that he would oppose his reappointment. And, up to now, Clague has been working as special assistant to Mitchell while an "acting commissioner" headed the BLS.

The work of BLS has become increasingly important to industry. Thousands of employers use its Consumers Price Index ("cost of living" figures) for making wage determinations. Its manpower and employment figures influence marketing, plant location, and other vital managerial decisions. It is the only authoritative source for facts on strikes, wage levels, and collective bargaining terms. For such an agency to be devoted to anything less than the very highest professional standards would be downright dangerous.

In renominating Clague, the White House has withstood partisan political pressure in a good cause. Sen. Martin is to be commended for withdrawing his objection to the appointment. All that remains is for the Senate to confirm the man who appears to be the best qualified available. The business community has a considerable interest in seeing that it is done.



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